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# ENVIRONMENTAL ASSESSMENT BOARD

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VOLUME: 260

DATE: Wednesday, November 14, 1990

BEFORE:

A. KOVEN

Chairman

E. MARTEL

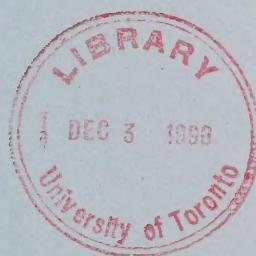
Member

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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL  
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR  
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental  
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental  
Assessment for Timber Management on Crown  
Lands in Ontario;

- and -

IN THE MATTER OF a Notice by the  
Honourable Jim Bradley, Minister of the  
Environment, requiring the Environmental  
Assessment Board to hold a hearing with  
respect to a Class Environmental  
Assessment (No. NR-AA-30) of an  
undertaking by the Ministry of Natural  
Resources for the activity of timber  
management on Crown Lands in Ontario.

-----  
Hearing held at the offices of the Ontario  
Highway Transport Commission, Britannica  
Building, 151 Bloor Street West, 10th Floor,  
Toronto, Ontario, on Wednesday, November  
14th, 1990, commencing at 9:00 a.m.

-----  
VOLUME 260

BEFORE:

MRS. ANNE KOVEN  
MR. ELIE MARTEL

Chairman  
Member



A P P E A R A N C E S

MR. V. FREIDIN, Q.C.)	
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MS. K. MURPHY )	RESOURCES
MR. B. CAMPBELL )	
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TOURISM ASSOCIATION



I N D E X      O F      P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
<u>GEORGE MAREK; Sworn</u>	46742
Continued Cross-Examination by Ms. Cronk	46744



I N D E X   O F   E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1547A	Two-page letter from Mr. Saltarelli of Abitibi-Price to Mr. Keyford of the Canadian Forestry Service, dated October 15, 1985.	46744
1547B	Memo to Mr. Marek dated November 13, 1990 from Mr. Havistol, Scientist with the Canadian Forestry Service.	46744
1548	(Omitted)	
1549	Four-page article entitled: Alternate Strip Clearcutting in Upland Black Spruce, An Introduction by Fred Robinson, published in December, 1987 edition of the Forestry Chronicle.	46784
1550	Seven-page article entitled: Alternate Strip Clearcutting in Upland Black Spruce, Factors Affecting Regeneration in First Cut Strips by John Jeglum, published in December, 1987 in the Forestry Chronicle.	46785
1551	Five-page article entitled: Alternate Strip Clearcutting in Upland Black Spruce, Article III, Regeneration Options for Leave Strips by Wood, et al published in December, 1987 in Forestry Chronicle.	46785



I N D E X   O F   E X H I B I T S  
(Cont'd)

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1552	Article entitled: Alternate Strip Clearcutting in Upland Black Spruce, No. 4, Projected Nutrient Removals Associated with Harvesting by Foster, et al, published in December, 1987, Forestry Chronicle.	46787
1553	Seven-page article entitled: Alternate Strip Clearcutting in Upland Black Spruce, Paper 5, the Impacts of Harvesting on the Quality of Water Flowing from Small Basins in Shallow Soil Boreal Ecosystems by Nicolson, published in February, 1988 in the Forestry Chronicle.	46787
1554	Article entitled: Alternate Strip Clearcutting in Upland Black Spruce, No. 6, Harvesting and Renewal Costs of Strip Cutting Relative to those of Clearcutting, by Johnson and Smyth, published in Forestry Chronicle, February, 1988.	46788
1555	Article entitled: Alternate Strip Clearcutting in Upland Black Spruce, No. 7, Planning and Implementation by Lorne Morrow, published in the Forestry Chronicle, February, 1988.	46788
1556	Article entitled: Alternate Strip Clearcutting in Upland Black Spruce, No. 8, Shallow Soil Ecosystems and Their Classification by Simms and Tallow, published in Forestry Chronicle, February, 1988.	46789



I N D E X      O F      E X H I B I T S  
(Cont'd)

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1557	Three-page extract from the Statistics of the Ministry of Natural Resources for 1988/1989.	46801



1           ---Upon commencing at 9:05 a.m.

2           MADAM CHAIR: Good morning. Please be  
3 seated.

4           Good morning, Ms. Cronk.

5           GEORGE MAREK, Resumed

6           MS. CRONK: Good morning, Madam Chair,  
7 Mr. Martel. Mr. Marek, good morning.

8           MS. SWENARCHUK: Madam Chair, Mr. Marek  
9 was able to obtain over night the letter and the  
10 confirmatory document for his position yesterday.

11          Perhaps we will provide that to the Board  
12 and the other parties now, Mr. Marek.

13          MADAM CHAIR: Shall we make this an  
14 exhibit?

15          MS. CRONK: Yes, thank you.

16          MADAM CHAIR: This will be Exhibit 1547.

17          THE WITNESS: (handed)

18          MADAM CHAIR: Thank you, Mr. Marek.

19          There are two pieces of correspondence?

20          MS. SWENARCHUK: A piece of  
21 correspondence and a memo.

22          MADAM CHAIR: Could you identify these,  
23 Ms. Swenarchuk?

24          MS. SWENARCHUK: Yes.

25          MS. CRONK: Sorry, what exhibit numbers,

1           Madam Chair, were assigned?

2           MADAM CHAIR: 1547.

3           MS. CRONK: For which one? For both?

4           MADAM CHAIR: Do you want to do to A and  
5           B or do you want two separate exhibit numbers?

6           MR. CRONK: A and B is fine.

7           MADAM CHAIR: Let's do A and B.

8           MS. CRONK: 1547A for which, October  
9           15th?

10          MADAM CHAIR: Which is the first date,  
11          October 15th.

12          MS. SWENARCHUK: 1985.

13          MADAM CHAIR: Yes, that will be Exhibit  
14          1547A and B will be the correspondence dated November  
15          13, 1990.

16          MS. CRONK: Thank you.

17          MS. SWENARCHUK: That will be Exhibit  
18          1547B.

19          MADAM CHAIR: Yes. Can you identify  
20          these, Ms. Swenarchuk?

21          MS. SWENARCHUK: Madam Chair, Exhibit  
22          1547A is a letter from Mr. Saltarelli of Abitibi to Mr.  
23          Kayford of Canadian Forestry Service and indicates, I  
24          think, the basis on which Mr. Marek said to you  
25          yesterday that he believed correspondence existed

1 further to the correspondence previously filed.

2 The second document which accompanied it  
3 is a memo to Mr. Marek dated yesterday by Mr. Havistol,  
4 a scientist with the Canadian Forestry Service, setting  
5 out his recollection of the event in greater detail.

6 MADAM CHAIR: Both of these are two-page  
7 letters.

8 ---EXHIBIT NO. 1547A: Two-page letter from Mr.  
9 Saltarelli of Abitibi-Price to  
Mr. Kayford of the Canadian  
Forestry Service, dated October  
10 15, 1985.

11 ---EXHIBIT NO. 1547B: Memo to Mr. Marek dated  
November 13, 1990 from Mr.  
12 Havistol, Scientist with the  
Canadian Forestry Service,  
13

14 MS. CRONK: Thank you for providing  
those, Mr. Marek. I will take an opportunity to read  
15 them and then we will come back to them.

16 CONTINUED CROSS-EXAMINATION BY MS. CRONK:

17 Q. With respect to the issues we were  
dealing with yesterday, one or two follow-up items and  
20 then we will move to something new.

21 You will recall that yesterday we were  
discussing with respect to the availability of sphagnum  
22 as a seedbed or an environment for the establishment of  
black spruce seedlings. We were discussing the Lossie  
24 article. You will remember that that appears in the  
25

1       big black book of documents you have.

2                          Do you recall that?

3                          A. Yes.

4                          Q. And you suggested to the Board that  
5                          in the Lossie situation, based on the research with  
6                          which you were familiar, the experiments in strip  
7                          cutting had been conducted over what I think you  
8                          described as boulder pavement.

9                          Do you recall that?

10                         A. That's right.

11                         Q. And then you described what occurred  
12                         with respect to the compaction sphagnum in those  
13                         circumstances.

14                         A. That's right.

15                         Q. Now, first, Mr. Marek, in your view,  
16                         in your experience can you get sphagnum in the boreal  
17                         forest without water problems? Does that happen?

18                         A. Can you get sphagnum without water  
19                         problems. Sphagnum, Madam, is a very basic component  
20                         of flora in the boreal forest and you find it from the  
21                         Clay Belt right to the boundary of Manitoba and beyond.

22                         Yes, sphagnum is a very demanding specie  
23                         of mosses, depending very much on water, but you will  
24                         find across the spectrum of northwestern Ontario in  
25                         general.

1                   Q. In some circumstances without water  
2 problems?

3                   A. Sphagnum cannot exist with water,  
4 Madam.

5                   Q. I understand. The emphasis is on the  
6 words problems.

7                   A. In other words, when sphagnum get  
8 established usually it's on a very wet site or wetter  
9 site than normal site, normal wet conditions. We call  
10 it moisture regime.

11                  Q. Yes.

12                  A. In other words, sphagnum seems to be  
13 striving very well on plentiful water.

14                  Q. And those two conditions can co-exist  
15 without creating moisture imbalances?

16                  A. These two conditions...

17                  Q. The presence of moisture for sphagnum  
18 and the existence of sphagnum.

19                  A. Can create -- would you repeat that  
20 again?

21                  Q. Yes. Those two conditions, the  
22 presence of moisture, water and sphagnum can co-exist  
23 in some circumstances without creating water problems,  
24 water imbalances?

25                  A. In some cases, yes; in some cases,

1 no.

2 Q. ... Yes, thank you. Now, in addition --

3 A. Again we are dealing -- Madam, please  
4 do realize that we have, I don't know, 26 different  
5 sphagnum moss.

6 Q. You explained that yesterday, Mr.  
7 Marek.

8 A. As long as you keep that in  
9 perspective, being specific because specificity is very  
10 important in forestry.

11 Q. I agree.

12 A. Okay.

13 Q. In the Lossie article, Mr. Marek,  
14 there is a description of the forest conditions that  
15 were studied in the study area and the authors indicate  
16 that the type of forest condition being studied  
17 included a wet phase of the typical black spruce  
18 dicranum type characterized by the presence of  
19 sphagnum.

20 A. That's right.

21 Q. And the authors indicate that they  
22 sub-categorized the study area which comprised some 225  
23 acres into three different site types, one of which was  
24 the wet dicranum type.

25 Now, without taking too much time on

1       this, is it correct that the boulder terrain that you  
2       described yesterday did not extend over all of the  
3       study area described in the Lossie paper?

4                     A. That is correct.

5                     Q. Indeed it was present for part, but  
6       not the majority even of the site?

7                     A. Vary with the site condition  
8       around Raith, Madam, very important.

9                     Q. Am I correct in what I just  
10      suggested?

11                  A. Well, there are a variety of site  
12      conditions there and it's not normal with the boreal  
13      forest.

14                  Q. Yes. And the boulder terrain  
15      condition extended over part, but not even the majority  
16      of the study area, or do you know?

17                  A. Well, majority, not majority. I'm  
18      not that aware, madam, when you talk about 51 per cent  
19      versus 49 per cent, but large area of these boulder  
20      pavements is typical of the condition of the area  
21      around Raith. I have spent some time there with the  
22      writer of the article and also with Mr. (inaudible)

23                  So I cannot categorize 51/49 or something  
24      like that, Madam.

25                  Q. All right. That's fine, thank you.

1 Now, the other issue that arose yesterday, you will  
2 recall we were discussing the proposition that you had  
3 put forward that immature or young forests were more  
4 vulnerable than artificially -- I'm sorry, that  
5 naturally generated forests were more vulnerable to  
6 spruce budworm than artificially regenerated forests  
7 and you were good enough to provide me with a  
8 compendium of papers presented at a black spruce  
9 symposium in Czechoslovakia, 1979.

10 You recall that?

11 A. That's correct.

12 Q. I can tell you, Mr. Marek, speed  
13 reader though I am, I can't profess to have read them  
14 all, but we have taken a look at the articles in the  
15 binder that you provided.

16 A. That's correct.

17 Q. Can you indicate -- first of all,  
18 most of the articles in it are in English. Can you  
19 tell me, sir, whether there is any particular article  
20 in the symposium materials that you can point out to  
21 which supports the proposition that naturally  
22 regenerated forests are more vulnerable than  
23 artificially regenerated forests to spruce budworm?

24 A. Madam, I have --

25 MS. SWENARCHUK: Excuse me. Was that the

1 proposition or was the reverse the proposition?

2 MS. CRONK: That naturally -- I'm sorry,  
3 it was the reverse. You are quite right.

4 THE WITNESS: May I point out one thing,  
5 Madam Chair. Madam, I didn't do my homework because I  
6 had other more important things to do.

7 I hope to supply you, you understand, but  
8 that in order to pinpoint page 59 by fellow Classic,  
9 there are many names there, I can tell you that I  
10 cannot pinpoint that right now. If you give me another  
11 day, other night, perhaps I can give you that answer.

12 I was not able to do my homework last  
13 night due to the more important...

14 Q. Thank you, Mr. Marek. I will accept  
15 that undertaking.

16 A. I know very well most of these pages  
17 and most of these speakers there at the symposium and I  
18 know very well that you will find out that there are  
19 statements on several occasions which claim that the  
20 natural stands are much more resistant to the risks in  
21 general and that means root rot, that means of course  
22 the pest infestation, diseases and so on. I will do my  
23 best tonight to supply you the pages.

24 Q. Thank you. Can you assist me today  
25 with this, Mr. Marek. Has the proposition that

1       artificially regenerated forests are more vulnerable to  
2       spruce budworm than naturally regenerated forests been  
3       studied specifically in the boreal forest of Ontario  
4       insofar as you are aware?

5                   A. I have studied several areas on the  
6       spruce Lake Nipigon forest there because I have these  
7       comparison; in other words, I have area planted, I have  
8       area naturally regenerated.

9                   As a matter of fact, at the last meeting  
10      with several scientists, we visited these area, there  
11      was representation by MNR people, and we were wondering  
12      about that issue because you can have it on one site  
13      heavy pests, for instance, white spruce which is  
14      artificially regenerated or the natural stand and  
15      vis-a-vis you have on the other site natural  
16      regeneration and there is a completely different effect  
17      of the budworm, and it seems to me budworm prefer  
18      artificially planted trees.

19                  Yesterday I was talking about hormonal  
20      problem, problem of photosynthetic changes and so on  
21      which perhaps should be researched more in detail. But  
22      my experience is throughout the world that I didn't  
23      show regenerated stands are more prompt any kind of --  
24      to anything, from budworm in this case, right down to  
25      diseases of root rots and fungi, of course windthrow

1 and so on. That's a generally accepted fact throughout  
2 the world.

3 Q. I understand, Mr. Marek, that that's  
4 your view and those are observations that you have  
5 detailed for the Board.

6 Are there any reported studies, reported  
7 studies or scientific publications of which you are  
8 aware in which that phenomenon that you suggest has  
9 been reported upon in the boreal forest in Ontario?

10 A. No.

11 Q. Thank you.

12 A. We are negligent to document it  
13 unfortunately. That's coming pretty soon, Madam, I am  
14 quite sure.

15 Q. Mr. Marek, one of the other issues  
16 that we discussed briefly yesterday was the interaction  
17 of wild fire in young versus mature stands and just a  
18 follow-up question on that.

19 Am I correct that there are a number of  
20 factors which contribute to and determine the intensity  
21 of a wild fire, one of which are the prevailing wind  
22 conditions at the time?

23 A. Well, you talked of the indexes which  
24 control the behaviour of the fire, Madam.

25 Q. Is that one of the factors that

1 influences the nature and the intensity of a wild fire,  
2 the prevailing wind conditions?

3 A. To some degree. Large wild fires  
4 quite frequently create their own air currents and  
5 affect the speed of fire or spread of the fire,  
6 correct.

7 Q. And temperature as well?

8 A. Well, you have to have a drought  
9 condition. You cannot probably imagine any large wild  
10 fire without extreme drought conditions.

11 Q. And the length of the dryness prior  
12 to the fire is a contributing factor?

13 A. That's correct. Extensive.

14 Q. As it the total combination of fuel  
15 potential on a site?

16 A. Right.

17 Q. Can we agree then that there are a  
18 multitude of factors in determining the intensity of a  
19 fire in addition to the oxygen component per se?

20 A. Fuel arrangement is one of them,  
21 Madam. Yesterday I talked about the effect of wild  
22 fire in very dense stands. Here, again, you have a  
23 different fuel arrangement and fuel arrangement means  
24 amount of fuel for a certain area, number of trees, its  
25 density and so on. So that affects the spread of the

1 fire very much.

2 Q. My question, Mr. Marek, was that  
3 there is a whole combination of factors that contribute  
4 to the intensity of a fire in addition to the oxygen  
5 component? Is the answer yes?

6 A. That's correct.

7 Q. Thank you. With respect particularly  
8 to young stands as distinct from mature stands, would  
9 you agree that given the age of young stands that very  
10 often because their foliage is lower to the ground that  
11 the rate of climb of a fire can be very rapid in young  
12 stands?

13 A. Could be.

14 Q. And would you also acknowledge that  
15 in the case of young stands as opposed to mature stands  
16 there is very often, not always but there is very often  
17 a greater fuel source present on the forest floor by  
18 virtue of the fact that a lot of the debris is still  
19 present from the previous fire?

20 A. Yeah, but in what condition? You  
21 see, you are talking about different indexes here  
22 again.

23 Madam, young stands usually due to the  
24 density, due to the mineral soil radiation, these  
25 things are usually extremely wet or moist not only in

1       the next mixed stratas of the trees, but in the ground  
2       itself; in other words, that affects again the fire  
3       behaviour.

4                     If you have a wet floor and you have a  
5       dry floor, it obviously makes a difference how you are  
6       going to slip on it, right, are you going to fall on  
7       your nose...

8                     Q. And the presence of debris from the  
9       preceding fires is also a factor?

10                  A. See, many young stands, and again  
11       being specific, from age 1 to age 20 or 40, second age  
12       class or first age class, are usually in such a  
13       condition that whatever debris is present on the ground  
14       is extremely wet, moist due to the lack of soil  
15       radiation and impact on the drying out effects.

16                  So when you talk about drying effect and  
17       condition of debris in the stands, you must be fully  
18       aware that the debris which is accumulated throughout  
19       the dynamics of the stand itself is completely  
20       different moisture condition than in the old.

21                  Q. The proposition is a simple one, Mr.  
22       Marek, and that is that the presence of dead fall from  
23       a previous fire is more likely with a young forest than  
24       an old. Do you agree with that?

25                  A. That may be the case, but the

1 condition is very important.

2 Q. I agree.

3 A. If it's wet or if it's dry.

4 Q. I agree.

5 A. Okay. As long as we understand each  
6 other what we are talking about, that's very important.

7 Q. One of the issues that you also  
8 raised in the context of wild fire in the course of  
9 giving your evidence is set out at page 12 of your  
10 witness statement. I don't know that you need to go to  
11 it, but if you wish, by all means.

12 At page 12 of your witness statement, you  
13 make the suggestion that:

14 "Many industrial foresters view  
15 clearcutting as equivalent to disturbance  
16 by wild fire."

17 Do you recall making that statement?

18 A. I have enclosed one of the pages from  
19 the timber management plan which went through the  
20 process of approval and so on, and it states very  
21 clearly in the first paragraph, and I see that thing in  
22 front of me, I don't want to look it up, where the  
23 manager says: Well, there's a certain duplication.

24 And while I agree that perhaps the size  
25 and some other aspects are very similar to the large

1 fire condition without the clearcutting, there are very  
2 basic differences, Madam, which I can argue with you  
3 and present the argument to the Board.

4 Q. You have outlined your views in that  
5 regard. My point is simply this, and I think you have  
6 just indicated it, would you agree that if properly  
7 carried out harvesting activities, including the kind  
8 of large area clearcutting that you described, can  
9 produce conditions similar to that originating wild  
10 fire, not a duplication, but similar conditions?

11 A. Not by itself, Madam. There is a  
12 basic difference in a function of the fluxes, if you  
13 want to call it.

14 That term fluxes is familiar to you,  
15 Madam, the ecosystem fluxes--

16 MADAM CHAIR: Yes, Mr. Marek.

17 THE WITNESS: --the changes between --  
18 there are basic differences and I tried to explain it  
19 to you in my presentation, Madam.

20 MS. CRONK: Q. I understand.

21 A. I hope it's understood.

22 Q. Can we go this far together then, Mr.  
23 Marek. Is it in your view a desirable objective for  
24 foresters, to the extent possible, to manipulate site  
25 conditions to achieve a result similar to that produced

1 naturally by fire?

2 A. That is correct.

3 Q. That is a desirable objective?

4 A. That is correct.

5 Q. All right. Mr. Marek, before you  
6 wrote your witness statement for Panel 3, were you made  
7 aware of the evidence that had been given by the  
8 Industry representatives on the harvesting panel in  
9 this case?

10 A. I tried to follow-up as much as I  
11 could, but it's such an enormous task to follow every  
12 word. It's difficult to memorize it. Perhaps you can  
13 remind me, Madam, of some of these statements so we can  
14 discuss it.

15 Q. Were you, for example, present when  
16 Dr. Methven gave his evidence?

17 A. I know Mr. Methven and he visited me.

18 Q. Were you present when Dr. Methven  
19 gave his evidence?

20 A. No, I was not present.

21 Q. Did you read the transcripts of Dr.  
22 Methven's evidence?

23 A. Yeah, I think so I did.

24 Q. You did?

25 A. Yeah.

1                   Q. Do you recall then in the review of  
2 Dr. Methven's transcripts - and this, Madam Chair, for  
3 the record is page 34,312 - the following exchange? I  
4 am going to read it it to you, Mr. Marek. The question  
5 from Mr. Cassidy in direct:

6                   "Q. Dr. Methven, is clearcutting -- I'm  
7 sorry, the clearcut silvicultural system  
8 an exact duplication of the natural  
9 disturbances you have described?

10                  A. No, the clearcutting is not an exact  
11 duplication. There are small difference,  
12 whether it is to do with micro-climate,  
13 whether it is to do with nutrient  
14 dynamics, whether it is to do with scale  
15 of pattern of the landscape.

16                  Yes, clearcutting is different  
17 from natural disturbances, as I said, in  
18 terms of, one, mico-climate to some  
19 degree, to nutrient dynamics; three, the  
20 scale on the landscape. I could talk  
21 about these in more detail if that is  
22 necessary.

23                  Q. Does it approximate natural  
24 disturbances?

25                  A. Yes, it certainly does approximate

1                   the natural disturbance and a fire  
2                   ...exclusion mode that we are in, it is the  
3                   closest approximation that we can come  
4                   to."

5                   Now stopping there, Mr. Marek. Were you  
6                   aware of that evidence when you wrote your witness  
7                   statement?

8                   A. Of course I was.

9                   Q. Would you agree with me that that  
10                  evidence by Dr. Methven makes it quite clear on behalf  
11                  of the Industry his view that clearcutting is not an  
12                  exact duplication or the equivalent of natural  
13                  disturbances caused by fire?

14                  A. Is not exactly?

15                  Q. That's what he said.

16                  A. I question the term "exactly".

17                  Madam, in forestry exactly is what?

18                  MS. SWENARCHUK: Could I ask the  
19                  relevance of that question with relation to the  
20                  statement in the witness statement that was put.

21                  The witness statement line says:

22                  "Many industrial foresters review  
23                  clearcutting as equivalent to disturbance  
24                  by wild fire."

25                  The Board has heard evidence on this

1 issue and I am sure the Board has reached a certain  
2 assessment of the degree to which equivalence or  
3 approximation has been claimed by the Ministry and  
4 perhaps by the Industry before the Board.

5 But with respect to the question put to  
6 Mr. Marek, the witness statement refers to views of  
7 industrial foresters not to views of scientists before  
8 this Board. Perhaps we can understand why this  
9 apparent equivalence is being put in terms of the  
10 statements.

11 MS. CRONK: Well, Madam Chair, I am not  
12 proposing to debate this.

13 Mr. Marek, during the course of his  
14 written witness statement, made the suggestion that I  
15 have drawn the Board's attention to, in the course of  
16 his oral evidence to you on several occasions, during  
17 his slide presentation he referred to what he described  
18 as being an Industry perspective that clearcutting was  
19 the equivalent of wild fire.

20 It was been throughout this hearing and  
21 still the position of the Industry that that is not the  
22 case, but that it is an appropriate objective to try to  
23 approximate the results of wild fire.

24 I do not wish any impression left with  
25 the Board through Mr. Marek's evidence that, in fact,

1 the Industry position is on an equivalency basis. I am  
2 perfectly entitled in cross-examination, in my  
3 submission, to explore that with Mr. Marek and that's  
4 what I have just done.

5 MADAM CHAIR: Thank you, Ms. Cronk.

6 MS. CRONK: Thank you.

7 Q. Mr. Marek, one of the other matters  
8 that you commented upon in the course of your evidence  
9 had to do with the state of training of foresters in  
10 this province, training and experience.

11 You discussed that at the time I wrote  
12 this note as of last week, last Wednesday, and I would  
13 ask you to go, if you would, please, to page 73 of your  
14 witness statement.

15 A. 73?

Q. That's Panel 3.

17 A. That's right.

18 Q. I would direct your attention to the  
19 last paragraph on page 73, Mr. Marek where you  
20 indicate:

1                   poorly equipped to use prescriptions  
2                   other than the norm."

3                   A. That is correct, Madam.

4                   Q. "More complex systems do not fit into  
5                   industrial strategies which respond to  
6                   today's market forces only."

7                   I take it it is your view then, Mr.

8                   Marek, that the current educational system in forestry  
9                   does not provide for consideration of the foresters of  
10                  innovative silvicultural and harvesting approaches?

11                  A. You are -- you want a yes or no?

12                  Q. Yes, please.

13                  A. No.

14                  Q. That's not your view or no it  
15                  doesn't?

16                  A. It does not provide adequate training  
17                  and so on.

18                  Q. You also suggested in your  
19                  discussions with Mr. Hanna, you will recall the other  
20                  day the questions that he explored with you, you also  
21                  suggested to him that the training programs for  
22                  foresters on such matters as soil degradation, soil  
23                  compaction, soil productivity are deficient. Do you  
24                  recall giving that evidence, expressing that view?

25                  A. That's correct. That can be

1       summarized, Madam -- I am helping you without with this  
2       differentiation. This so-called applied forest  
3       ecology.

4                   Q. Yes. Can we, I suppose, agree at the  
5       outset, Mr. Marek, that there is always room for  
6       improvement in the type of teaching that's provided to  
7       professionals, be it if forester or anybody else?

8                   A. Very much so.

9                   Q. Mr. Marek, do you regard yourself as  
10      current on the types of subjects offered and required  
11      in our forestry schools at present with respect to  
12      these kinds of issues?

13                  A. I'm following very closely, that's  
14      correct.

15                  Q. Could I ask you to turn please, if  
16      you would, to Tab 15 of the black binder of documents.

17                  A. Practice of forestry.

18                  MS. CRONK: Madam Chair, the document  
19      that appears at page 15 is the document setting out  
20      certain of the courses at the University of Toronto  
21      Faculty of Forestry and various forestry subject  
22      matter. It is comprised of nine pages in total. I  
23      would ask it be marked as the next exhibit.

24                  MADAM CHAIR: It will be Exhibit 1548.

25                  MS. CRONK: Thank you.

1                   MADAM CHAIR: And could you describe  
2                   this, Ms. Cronk?

3                   MS. CRONK: Yes. The document, Madam  
4                   Chair, for the record is, as I said, a nine-page  
5                   document describing certain of the courses on the  
6                   curriculum at the University of Toronto's Faculty of  
7                   Forestry. It is comprised of five course outlines for  
8                   that faculty.

9                   Q. Mr. Marek, the first course outline  
10                  in this exhibit is described at the first page as  
11                  Planning for Harvesting and Silviculture. Do you see  
12                  that?

13                  A. That's on the page -- which page are  
14                  you talking about?

15                  Q. The top of page 1, the description of  
16                  the course, Planning for Harvesting and Silviculture,  
17                  that's the name of the course.

18                  A. Planning courses which enlarge -- I'm  
19                  sorry, I can't see.

20                  Q. All right. Page 1, Mr. Marek.

21                  A. Yes.

22                  Q. Page 1.

23                  A. Yes.

24                  Q. At the very top it says Faculty of  
25                  Forestry, University of Toronto, the course number is

1       Forestry 302S offered in the spring and it is entitled  
2       Planning for Harvesting and Silviculture. Do you see  
3       that?

4                   A. Yeah, Planning for Harvesting and  
5       Silviculture.

6                   Q. Could I ask you to turn to page 2,  
7       please, of that course outline.

8                   A. Right.

9                   Q. And you will see that there's a  
10      section entitled Course Outline, Subject Area and  
11      Activity and it lists the lecture dates and the  
12      subjects to be covered.

13                  A. Mm-hmm.

14                  Q. And I draw your attention to the  
15      three beside which I have placed an asterisk.

16                  A. Right.

17                  Q. Am I correct that those subjects  
18      include such matters as silvicultural prescriptions by  
19      site type, logging systems by season and site, that's  
20      the subject matter that's covered; is that correct?

21                  A. Mm-hmm.

22                  Q. It also includes preliminary data  
23      summaries, seasons, species, area, cutting method and  
24      system, silvicultural prescriptions, area exclusions,  
25      modified cutting and forest reserves.

1                   A. Mm-hmm.

2                   Q. -- Right. -- And the next -- I'm sorry,  
3                   sir, you have to remember we have a reporter here. You  
4                   and I are going to have to remember that today. You  
5                   have to say yes or no. That's correct?

6                   A. Yes or no, okay.

7                   Q. The answer in this case is that  
8                   that's what the course outline covers?

9                   A. Yes.

10                  Q. Thank you. The next course outline,  
11                  could I ask you to go to that, Mr. Marek, at page 3.

12                  A. Page 3.

13                  Q. It's the next page, it's Forestry 313  
14                  offered in the fall and it's called Silviculture 1. Do  
15                  you have that. I'm reading at the top of the page,  
16                  sir. Forestry 313F, Silviculture 1. The very next  
17                  page, sir.

18                  A. There's no page here -- oh, here.

19                  Q. Sir, you've gone one too far. Would  
20                  you go back one page. All right. At the top of the  
21                  page you are now looking at the course is called  
22                  Silviculture 1. Do you see that at the top of the  
23                  page? It says Faculty of Forestry, University of  
24                  Toronto.

25                  A. Yeah, Silviculture 1, fall 1990,

1 yeah.

2 Q. Thank you.

3 A. Instructor --

4 Q. Thank you. Looking at the general  
5 objectives and outline of the course, it appears that  
6 this course focuses on the biological principles and  
7 practices of silviculture as a foundation to an  
8 advanced silvicultural course and it deals with such  
9 matters as silvicultural plans, regeneration of forest  
10 stands and manipulation of stand structure and  
11 dynamics.

12 A. Mm-hmm.

13 Q. That's what the course outline  
14 indicates?

15 A. Right.

16 Q. And then if you go to the next page,  
17 Mr. Marek, there's a break out in more detail of what's  
18 offered in that course, and looking first at the box on  
19 the far right-hand side dealing with effects of  
20 silvicultural practices; do you see that?

21 A. I see that.

22 Q. Am I correct that such items as soil  
23 productivity and nutrient cycling, soil erosion,  
24 nutrient loss, water yield and quality, mechanized  
25 equipment, prescribed fire, chemicals, biological

1        attributes of stand dynamics, structure, growth and  
2        yield competition, et cetera, are all covered in that  
3        course? I'm sorry, sir, for the reporter...

4                  A. Yes.

5                  Q. Thank you. And in addition with  
6        respect to regeneration of forest stands, the bottom  
7        box specifically outlines what the course covers in  
8        terms of manipulation of stand structure and dynamics;  
9        do you see that?

10                 A. I can hardly see that page, Madam,  
11        however, yes.

12                 Q. All right. And in that box, I  
13        appreciate it's a little difficult to read, but it  
14        suggests that the course content also deals with such  
15        items as species composition, growth rates and quality,  
16        choice of initial spacing, stand density, wood quality  
17        and a variety of other subjects?

18                 A. I believe, yes.

19                 Q. Thank you. And then turning to the  
20        next course outline, the next page that is described as  
21        Forestry 401F, and this is the Advanced Silviculture 2  
22        course; is that correct?

23                 Do you have that page?

24                 MS. SWENARCHUK: Madam Chair, I feel  
25        obliged to rise. I apologize for rising yet again but,

1       in my submission, the submission of these documents is  
2       of essentially no assistance to the Board, taken as  
3       they are totally out of the context of the entire  
4       educational structure of, I believe it's four years,  
5       for a Bachelor of Science in Forestry in one particular  
6       forestry school.

7                 If we were to hear from a professor of  
8       that school or someone qualified as to the relative  
9       amount of attention paid in that course to the subjects  
10      which Mr. Marek has claimed do not get much emphasis -  
11      and that is all he said - the Board in my view then  
12      would be in a position to appreciate whether these  
13      course outlines really tell you anything.

14                 My information about the focus of these  
15      courses - which I'm not at liberty to provide you at  
16      this time - would also be helpful to the Board, but in  
17      any event what we have here are about three course  
18      outlines, perhaps four, with certain subject areas  
19      listed and that's all that this document can tell you  
20      about four years of training in forestry school, and  
21      it's my submission they are not properly submitted in  
22      this context.

23                 MS. CRONK: Madam Chair, there are five  
24      course outlines here. Mr. Marek -- all of the  
25      submissions made by Ms. Swenarchuk go to the question

1 of weight and argument at the end of the day as to  
2 whether this evidence is relevant to you in assessing  
3 what Mr. Marek has said.

4 Mr. Marek both in writing and orally has  
5 made quite broad and quite critical statements of the  
6 kind of matters which foresters are now exposed to in  
7 the course of their training. It is my argument to you  
8 that his information is not current and, while it may  
9 have been correct several years ago, it is not current  
10 today, and this is an effort simply to demonstrate that  
11 to you.

12 It is in my submission entirely  
13 appropriate cross-examination and I wish to explore it  
14 only for a few minutes further to deal specifically  
15 with the issue raised by Mr. Hanna with Mr. Marek on  
16 soils issue, and then we will pass on.

17 You're going to have a great body of  
18 evidence before you at the end of the day on this  
19 training issue, but Mr. Marek has said far more about  
20 this subject than my friend suggests. It's entirely  
21 proper cross-examination in my submission.

22 MADAM CHAIR: Ms. Cronk--

23 MS. CRONK: Yes, Madam Chair?

24 MADAM CHAIR: --the Board finds that we  
25 have probably investigated this material enough and we

1 would like you to establish with Mr. Marek what point  
2 you're trying to get at.

3 MS. CRONK: All right. That's fine,  
4 Madam Chair.

5 Q. Mr. Marek, I understood you to be  
6 suggesting to Mr. Hanna that there were two things.  
7 First of all, in your written evidence you indicated  
8 that there was inadequate training in the province for  
9 foresters with respect to innovative harvesting and  
10 silvicultural options; and, secondly, you specifically  
11 told Mr. Hanna in your evidence that there was  
12 inadequate training in such matters as soil  
13 productivity, soil compaction and matters related to  
14 soil productivity.

15 With respect generally to the curriculum  
16 offered in our forestry schools today as evidenced by  
17 these particular course outlines, would you agree that  
18 there are specific courses offered to foresters on such  
19 matters as forest soils, or do you know?

20 A. Madam Chair, to argue about education  
21 now and in the future, and this is still futuristic  
22 thing because I don't think this is being implemented  
23 as yet. Is that so, Madam Chairman?

24 Q. What you've been provided, Mr. Marek,  
25 is a current -- you've been provided with five course

1 outlines of current courses at the University of  
2 Toronto. My question is quite simple: Do you  
3 acknowledge that there are detailed courses in forestry  
4 soils offered in forestry schools in Ontario today?

5 A. Available 1990, and 91-92, yes, I  
6 have it in front of me.

7 Q. Thank you. And do you acknowledge as  
8 well that they cover such matters as those outlined by  
9 you in your discussion with Mr. Hanna, things like soil  
10 compaction, soil productivity, soil degradation, those  
11 are issues specifically on which foresters receive  
12 training?

13 A. I have to -- Madam, I have to see the  
14 program itself, how well is it put. I cannot say here  
15 just by classification of these courses as such in  
16 principle what that course is all about.

17 MADAM CHAIR: I don't think Ms. Cronk is  
18 asking you, Mr. Marek, if it's a good course or how  
19 many hours a week the students -- or when they graduate  
20 whether they're fully expert in these areas. It's  
21 simply, this is a course outline and, to some extent,  
22 students in 1990 at the University of Toronto are being  
23 taught that.

24 THE WITNESS: Will be exposed to that.

25 MADAM CHAIR: We have no information

1 other than that.

2 THE WITNESS: Yes, yes.

3 MS. CRONK: Q. All right. Thank you.

4 Could we turn then in more --

5 A. Madam Chair, could I point out one  
6 important aspect here to clarify what I said in my  
7 statement. Foresters who are managing FMAs now were  
8 not exposed to these things. These managers will be  
9 exposed to the management techniques which were taught  
10 in the schools 1985 or 1970, 1965, and what bothers me,  
11 Madam, is this, that while I congratulate our  
12 universities that they finally start teaching these  
13 basic, basic forestry science, including compaction -  
14 and this is not the whole answer to this - yes, I think  
15 the future looks bright and I see the great improvement  
16 when these courses will be taught.

17 What bothers me Madam, is that our forest  
18 will be exposed to the generation of foresters which  
19 are not instructed or were not opportunity to be  
20 instructed to this program. And I deal -- I taught, I  
21 teach at some of these very important aspects which  
22 should be instituted long time ago.

23 Q. Mr. Marek, leaving aside the issue of  
24 the timing of when these courses were introduced at the  
25 university level, are you familiar with courses that

1 have been offered by the Ministry of Natural Resources  
2 for the last several years on soils identification and  
3 soils issues?

4 A. Oh, Madam, most of them I have read  
5 yes. You're talking about seminars, Madam, and some of  
6 these --

7 Q. And specifical courses --

8 A. One or two day courses?

9 Q. Specific courses offered by the  
10 Ministry of Natural Resources for field foresters both  
11 Industry and government dealing with such matters as  
12 soil identification and soil issues?

13 A. I'm very critical of them, Madam.

14 Q. Is it fair to say that there is a  
15 continuing education program in the field for  
16 practising foresters today offered by the MNR and, in  
17 many instances, company Industry representatives?

18 A. There is opportunity to--

19 Q. Yes.

20 A. --take a part in these courses, but  
21 again, don't ask me to judge it.

22 Q. Thank you. Now, you have given  
23 considerable evidence to the Board regarding strip  
24 cutting, Mr. Marek, and you have told the Board about  
25 the work that you have done on strip cutting in the

1       Lake Nipigon area. I would like to understand more  
2       clearly first, if I might, the history of strip cutting  
3       efforts in this part of the area of the undertaking.

4                   Am I right, Mr. Marek, that the  
5       techniques of strip cutting to regenerate black spruce  
6       has been used in Ontario -- in northern Ontario for  
7       many years, although I acknowledge not as extensively  
8       as you would like to see it, but it has been used for  
9       many years?

10                  A. Forest strip cutting in Ontario was  
11       done in 1920 in the area which I am familiar with,  
12       Madam, and I know results of it and I also follow in  
13       detail future results. 1920, it's a long time ago,  
14       it's 70 years now.

15                  Yes, I'm aware of efforts of some of the  
16       European foresters who came here at the turn of the  
17       century and tried to implement "small area  
18       clearcutting", "modified cutting", yes.

19                  Q. All right. Well, in addition, am I  
20       also correct that some of the first work in this area  
21       in northern Ontario was done by the researchers at the  
22       Abitibi-Price Woodlands research labs that we looked at  
23       yesterday, Mr. Losee and Mr. Vidlak?

24                  A. Correct.

25                  Q. And that took place in the mid-1950s

1 and thereafter?

2 A... Yeah, it started I think 1951 and  
3 ends up 1960. I am not quite sure when they end this,  
4 I have the reports on it I could present in more  
5 detail, if you wish.

6 Q. That's fine. It's really the  
7 historical approach to this that I'm interested in at  
8 the moment, Mr. Marek.

9 A. Right.

10 Q. And in addition to the work done by  
11 Abitibi-Price in the 50s on strip cutting, there is  
12 your own work on strip cutting introduced in the 1960s  
13 in the Lake Nipigon FMA area that you identified on  
14 Exhibit 1537?

15 A. 1958, Madam.

16 Q. 1958.

17 A. That's correct.

18 Q. Thank you. And that was strip  
19 cutting -- those were strip cutting trials, as I  
20 understand it, that you initiated with Domtar in 1958  
21 which involved alternate strip cutting?

22 A. Correct.

23 Q. And am I correct that the work that  
24 you did in that area was a two-cut system on black  
25 spruce shallow soil sites?

1                   A. The original one that was done in  
2 jack pine on deep sites, Madam, 1958 effort along  
3 Sturgeon River was done on the two-cut system in jack  
4 pine working group.

5                   Q. And then in the 60s you were doing  
6 alternate strip cutting work on a two-cut system?

7                   A. On black spruce.

8                   Q. On shallow soil sites?

9                   A. Some of them were shallow sites, some  
10 of them were deep sites.

11                  Q. And you have identified the area of  
12 those on Exhibit 1537 and you've also told the Board  
13 about the strip cutting operational work that was done  
14 by the CFS, Domtar, MNR group again in the same area,  
15 the Lake Nipigon FMA?

16                  A. Correct.

17                  Q. All right. Am I right that that was  
18 a three-way cooperative research project that really  
19 commenced in 1973 by agreement between the three  
20 parties as to what should occur?

21                  A. That specific, that specific area of  
22 the undertaking was done in cooperative spirit between  
23 the licensee and the MNR and CFS.

24                  Q. All right.

25                  A. That specific.

1                   Q. Yes. And those operational strip  
2 cutting projects continued from 1973 until the late  
3                   1980s, it was an ongoing studied research area?

4                   A. On these specific three areas of the  
5 CFS, MNR, Industry document, yes, it was phased out in  
6 19 -- the group was actually abolished in 1982 or '83,  
7 '82, at the meeting in Sault Ste. Marie, I remember it  
8 very well.

9                   Q. Is it also correct, Mr. Marek, that  
10 in 1986 in Thunder Bay a workshop on black spruce was  
11 held, the purpose of which was to outline and report on  
12 the various research studies that had emanated from the  
13 work done by this three-party group on these strip  
14 cutting projects?

15                  A. Oh, I --

16                  Q. Have I got that date right, about  
17 '86?

18                  A. No, I cannot tell you because I was  
19 not invited to it, so I'm not aware of -- actually I  
20 cannot put it in place at all. There were several  
21 meetings I understand, but I read some of these  
22 conclusions of it, or I have been told, but I was not  
23 present so I cannot pass a judgment.

24                  Q. All right, that's fine. I wasn't  
25 asking for judgment, just the fact that the workshop

1 was held. You're aware that it was held?

2 - A. Well, again, I can't tell you. It  
3 may be there, I don't know.

4 Q. Do you know that there was a workshop  
5 held; are you aware of that?

6 A. I know of several workshops.

7 Q. One specifically dealing with the  
8 work by this three-party group on this strip cutting  
9 project?

10 A. The publication, I'm aware some of  
11 these publications later on, but...

12 Q. I'm informed that I misspoke myself,  
13 it was held in Nipigon.

14 A. That's better. You see --

15 Q. That's better?

16 A. See, Madam, you are confusing me so  
17 badly that I don't know where I say. Once you talk  
18 about Nipigon, next time you talk about Thunder Bay  
19 and --

20 Q. Well, it was an error and I regret  
21 that. Are you aware of the black spruce workshop that  
22 was held in Nipigon?

23 A. Oh yes, I'm aware of that one, yeah.

24 Q. All right, thank you. Then you have  
25 also indicated that you are aware of a number of

1 studies that were published as a result of the work of  
2 this group in the workshop.

3 My understanding, Mr. Marek, is that  
4 there were a series of studies published in the  
5 Forestry Chronicle, the purpose of which was to outline  
6 and report to the profession what had been achieved or  
7 what the results were of all this work; is that  
8 correct?

9 A. That's correct. Yeah, I am aware of  
10 the articles.

11 Q. Okay. Could I ask you to go, please,  
12 if you would, to Tab 18 of the black binder of  
13 documents.

14 A. Correct, 18. Alternate Strip  
15 Clearcutting in Upland Black Spruce, right?

16 Q. Yes.

17 A. Right.

18 MR. MARTEL: Could I ask a question  
19 before we start?

20 MS. CRONK: Of course.

21 MR. MARTEL: This seminar and these  
22 papers, you were the Chairman, as I understood it--

23 THE WITNESS: That's correct.

24 MR. MARTEL: --for years of this study  
25 group, and is it my understanding that you had no role,

1       you weren't invited by MNR or anyone else, since you  
2       were the Chairman, to take part or have anything to do  
3       with the writing up of the articles with respect to  
4       this research that went on and and you headed it up for  
5       10 years or 12 years?

6                     THE WITNESS: No, I was not invited to  
7       the seminars, Madam Chair.

8                     MR. MARTEL: What about the papers?

9                     THE WITNESS: That is different story.

10                  MR. MARTEL: Were you involved in the  
11       working papers?

12                  THE WITNESS: Well, Mr. Martel, my  
13       relationship with scientists for years was friendly one  
14       where the exchange of idea and scientific know-how was  
15       not measured by the standards of my credibility or my  
16       employment and so, so I must say that for many years I  
17       kept in touch and I am still keeping in touch and we  
18       are exchanging ideas, and I think that's very fruitful  
19       and I think both parties, as you will probably read in  
20       the statement by Mr. Harvestal, which was presented to  
21       you few minutes ago, it was very fruitful for benefits  
22       of all of us.

23                  But when it comes down to invitation to  
24       the meetings or have an input in official presentation  
25       at meetings like took in Nipigon, no, I was more or

1 less banned from and I was not invited, so of course I  
2 couldn't go on my own, I was banned, so ...

3                   Perhaps -- let me put it this way to  
4 answer your question. My activities, since McAlpine  
5 case, were looked upon as activities which never should  
6 have been allowed, never should have taken place. From  
7 letters you will read as statement presented by the  
8 Industry, there was a feeling of animosity that I am  
9 undermining, I am not positively contributing to the  
10 development in our forest in general; hence, I didn't  
11 have an input in official meetings.

12                  On the other hand, I assure you that I  
13 have lots and still having lots of input in personal  
14 communication and exchanges of ideas with many  
15 scientists.

16                  MADAM CHAIR: Ms. Cronk--

17                  MS. CRONK: Thank you, Madam Chair.

18                  MADAM CHAIR: --do you want to make this  
19 article an exhibit?

20                  MS. CRONK: Yes. In fact there are  
21 several, Madam Chair, that I propose should now be  
22 marked, and perhaps I could just get confirmation from  
23 the witness as to what these are.

24                  MADAM CHAIR: All right. We are starting  
25 at Tab 18?

1 MS. CRONK: Yes, I am.

2 Q. Mr. Marek, I would like to mark a  
3 number of these articles as exhibits. Starting at Tab  
4 18, can you confirm for me that there were a series of  
5 at least eight articles published in the Forestry  
6 Chronicle in 1987 and 1988 as a result of that workshop  
7 in Nipigon in 1986 detailing the results of the black  
8 spruce strip cutting project?

9 These are some of the articles published  
10 relating to the work that was done there?

11 A. That's correct.

12 MS. CRONK: Could I ask then, Madam  
13 Chair, that the article at Tab 18 being an article  
14 entitled: Alternate Strip Clearcutting in Upland Black  
15 Spruce, An Introduction by Fred Robinson, published in  
16 December, 1987 edition of the Forestry Chronicle and  
17 being four pages in length be the next exhibit.

18 MADAM CHAIR: Yes. That will be exhibit  
19 1549.

20 ---EXHIBIT NO. 1549: Four-age article entitled:  
21 Alternate Strip Clearcutting in  
22 Upland Black Spruce, An  
23 Introduction by Fred Robinson,  
published in December, 1987  
edition of the Forestry  
Chronicle.

24 MS. CRONK: And then at Tab 19, Madam  
25 Chair, appears an article, the second in the series

1       entitled: Alternate Strip Clearcutting in Upland Black  
2       Spruce, Factors Affecting Regeneration in First Cut  
3       Strips by John Jeglum, published in December, 1987 in  
4       the Forestry Chronicle. And I would ask that that be  
5       the next exhibit, it is seven pages in length.

6                   MADAM CHAIR: That is Exhibit 1550.

7       ---EXHIBIT NO. 1550: Seven-page article entitled:  
8       Alternate Strip Clearcutting in  
9       Upland Black Spruce, Factors  
     Affecting Regeneration in First  
     Cut Strips by John Jeglum,  
     published in December, 1987 in  
10      the Forestry Chronicle.

11                  MS. CRONK: And at Tab 20, Madam Chair,  
12       the third article in the series entitled: Alternate  
13       Strip Clearcutting in Upland Black Spruce, Article III,  
14       Regeneration Options for Leave Strips by Wood, et al  
15       published in December, 1987 in Forestry Chronicle, it  
16       is five pages in length.

17                  MADAM CHAIR: That is Exhibit 1551.

18       ---EXHIBIT NO. 1551: Five-page entitled: Alternate  
19       Strip Clearcutting in Upland  
20       Black Spruce, Article III,  
     Regeneration Options for Leave  
     Strips by Wood, et al published  
21       in December, 1987 in Forestry  
     Chronicle.

22                  MS. CRONK: The next article, Madam  
23       Chair, at Tab 21 is the fourth in the series entitled:  
24       Alternate Strip Clearcutting in Upland Black Spruce,  
25       No. 4, Projected Nutrient Removals Associated with

1        Harvesting by Foster, et al, published in December,  
2        1987, Forestry Chronicle.

3                    MS. SWENARCHUK: Isn't this the Foster  
4        and Morrison article that was part of MNR's Panel 9? I  
5        believe it's already an exhibit.

6                    MS. CRONK: I believe it is.

7                    MS. SWENARCHUK: Do you want it marked  
8        separately?

9                    MS. CRONK: I thought you should have the  
10      series together, Madam Chair, but it's entirely up to  
11      you.

12                  MADAM CHAIR: The previous three  
13      articles, are they also in -- have they been exhibited  
14      in extract or --

15                  MS. CRONK: No, not to my knowledge,  
16      Madam Chair, they have not.

17                  MADAM CHAIR: So this is the only one so  
18      far. Let's put it here and could we also  
19      cross-reference it, could someone at some point give us  
20      the--

21                  MS. CRONK: I will find that for you,  
22      Madam Chair.

23                  MADAM CHAIR: --the reference for where  
24      it is as an exhibit?

25                  MS. CRONK: That's Exhibit 1552 then?

1 MADAM CHAIR: Yes.

2 ---EXHIBIT NO. 1552: Article entitled: Alternate Strip  
3 Clearcutting in Upland Black  
4 Spruce, No. 4, Projected Nutrient  
5 Removals Associated with  
Harvesting by Foster, et al,  
published in December, 1987,  
Forestry Chronicle.

6 MS. CRONK: Then at Tab 22, Madam Chair,  
7 the fifth article in the series entitled: Alternate  
8 Strip Clearcutting in Upland Black Spruce, Paper 5, the  
9 Impacts of Harvesting on the Quality of Water Flowing  
10 from Small Basins in Shallow Soil Boreal Ecosystems by  
11 Nicolson, published in February, 1988 in the Forestry  
12 Chronicle, seven pages in length.

13 MADAM CHAIR: That is Exhibit 1553.

14 ---EXHIBIT NO. 1553: Seven-page article entitled:  
15 Alternate Strip Clearcutting in  
16 Upland Black Spruce, Paper 5, the  
17 Impacts of Harvesting on the  
18 Quality of Water Flowing from  
Small Basins in Shallow Soil  
Boreal Ecosystems by Nicolson,  
published in February, 1988 in  
the Forestry Chronicle.

19 MS. CRONK: And at Tab 23, Madam Chair,  
20 the sixth article in the series entitled: Alternate  
21 Strip Clearcutting in Upland Black Spruce, No. 6,  
22 Harvesting and Renewal Costs of Strip Cutting Relative  
23 to those of Clearcutting, by Johnson and Smyth, it  
24 might be Smyth, S-m-y-t-h.

25 MS. SWENARCHUK: This is also a previous

1 exhibit.

2 MS. CRONK: Could you help me as to the  
3 number, I'm not aware of this -- there are earlier --  
4 ---Discussion off the record

5 MADAM CHAIR: That's Exhibit 1554.

6 ---EXHIBIT NO. 1554: Article entitled: Alternate  
7 Strip Clearcutting in Upland  
8 Black Spruce, No. 6, Harvesting  
9 and Renewal Costs of Strip  
Cutting Relative to those of  
Clearcutting, by Johnson and  
Smyth, published in Forestry  
Chronicle, February, 1988.  
10

11 MS. CRONK: Thank you, Madam Chair. For  
12 the record, that was published in February, 1988 in the  
13 Forestry Chronicle.

14 And at Tab 24, Article 7 in the series  
15 entitled: Alternate Strip Clearcutting in Upland Black  
16 Spruce, No. 7, Planning and Implementation by Lorne  
17 Morrow, published in February, 1988 the Forestry  
18 Chronicle.

19 MADAM CHAIR: That is Exhibit 1555.

20 ---EXHIBIT NO. 1555: Article entitled: Alternate  
21 Strip Clearcutting in Upland  
22 Black Spruce, No. 7, Planning and  
Implementation by Lorne Morrow,  
published in the Forestry  
Chronicle, February, 1988.  
23

24 MS. CRONK: And then at Tab 25, Madam  
25 Chair, the last of the eight articles in this series,

1           Alternate Strip Clearcutting in Upland Black Spruce,  
2           No. 8, Shallow Soil Ecosystems and Their Classification  
3           by Simms and Tallow, published in February 1988,  
4           Forestry Chronicle.

5                           MADAM CHAIR: That is Exhibit 1556.

6           ---EXHIBIT NO. 1556: Article entitled: Alternate  
7           Strip Clearcutting in Upland  
8           Black Spruce, No. 8, Shallow Soil  
9           Ecosystems and Their  
            Classification by Simms and  
            Tallow, published in Forestry  
            Chronicle, February, 1988.

10                  MS. CRONK: Thank you for the  
11                  housekeeping.

12                  Q. Could I ask you then, please, Mr.  
13                  Marek, to go to Tab 19, the article by Fred Robinson,  
14                  the first in the series.

15                  A. Yes.

16                  Q. Could I direct your attention to page  
17                  437, the third page of this exhibit, This is exhibit  
18                  now 1549.

19                  A. Yes.

20                  Q. And dealing first -- well, perhaps  
21                  just briefly, the first two pararaphs on the left-hand  
22                  side of the page confirms the three-way cooperative  
23                  research program with Domtar, the MNR and the then  
24                  Great Lakes Forestry Centre that you described to the  
25                  Board, and it indicates that details were agreed to in

1       the summer of 1973 for a joint research proposal.

2                     Then, in the third paragraph under  
3                     project organization it describes the working group.  
4                     You recall that I asked you about this when we first  
5                     began our discussion and it indicates that it was  
6                     originally made up of yourself, Mr. Robinson of the  
7                     MNR, Mr. Iverson and Mr. MacDonald of Domtar and  
8                     Messrs. Frazer and Ketcheson of the CFS, and that that  
9                     group was established to oversee technical and  
10                  scientific details.

11                  That is the composition of the Black  
12                  Spruce Working Group; is that correct?

13                  A. Yeah, that's right.

14                  Q. And then the next paragraph, Mr.  
15                  Marek, of the article itself describes the nature of  
16                  the research studies undertaken as part of the project  
17                  and it indicates:

18                  "The research studies that were  
19                  instituted were directed mainly at  
20                  determining the costs of strip cutting in  
21                  comparison with those of strip cutting."

22                  It refers to Ketcheson's work and ways of  
23                  fine tuning the technique to obtain successful levels  
24                  of regeneration in the first cut strips, refers to  
25                  Jeglum's work -- excuse me, Mr. Robinson then

1 indicates:

2 "These two main emphases were later  
3 Augmented by studies of windfall and  
4 mortality in the leave strips...",

5 referring to Fleming and Crossfield, 1983:

6 "...comparative planting and seed spot  
7 studies in strip cuts and clearcuts...",

8 referring to Wood and Jeglum, 1984:

9 "...and studies of environmental impacts  
10 of strip cutting on the hydrology of  
11 small watersheds, nutrient loss  
12 and moose browsing."

13 Now, just dealing with that description,  
14 Mr. Marek, is that an accurate description in general  
15 terms of the nature of the research studies that were  
16 instituted and conducted as part of this project?

17 A. That was the term of reference,  
18 Madam, yes.

19 Q. All right. And it describes as well  
20 in the first paragraph in the right-hand column now on  
21 page 437, the nature of the workshop held in June,  
22 1986. You're quite right that it was in Nipigon, and  
23 Mr. Robinson indicates that it was held to present  
24 research and operational findings and to discuss the  
25 current status of strip cutting in the

1 Nipigon-Beardmore area of Ontario, and then he details  
2 the eight of nine papers presented at the workshop and  
3 published in the Forestry Chronicle.

4 You've already produced the Fleming and  
5 the Crossfield study, the ninth, you'll remember that's  
6 part of your source book for this panel, your witness  
7 statement here.

8 Now, this was the project that spawned  
9 the Jeglum articles and the Ketcheson articles that you  
10 have referred to in your evidence; am I right in that?

11 A. Some of it, yes.

12 Q. Yes. Dealing with the nature of the  
13 strip cutting that was involved in all of these  
14 studies, Mr. Marek, could I ask you to go -- I should  
15 say before we leave the Robinson article that Mr.  
16 Robinson also sets out on the right-hand side of page  
17 437 and over to page 438 the recommendations that  
18 emerged from the various studies; is that correct, in  
19 summary?

20 A. Yes.

21 Q. Dealing with the nature of the strip  
22 cutting that was involved in all of these studies, Mr.  
23 Marek, could I ask you to go -- I should say before we  
24 leave the Robinson article that Mr. Robinson also sets  
25 out in the right-hand side of 137 and 138 the

1       relationships that emerges from the various studies, is  
2       that correct, in summary form?

3                     A. Yes.

4                     Q. Then I would like to clarify for the  
5       Board the nature of the actual strip cutting that was  
6       undertaken in this lengthy research project, and for  
7       that purpose could I ask you to go to Jeglum, the first  
8       Jeglum in this series of eight at Tab 19?

9                     A. Okay. Yes.

10                  Q. Looking at page 2 of that article,  
11       Mr. Marek, in the left --

12                  A. Page 440, Madam?

13                  Q. Yes, thank you. In the first full  
14       paragraph on the left-hand column --

15                  A. "In the boreal forest of Ontario  
16       alternate strip cutting..."

17                  Q. Actually, I'm sorry, I am in the  
18       wrong Jeglum article myself. I apologize.

19                  One of the Jeglum articles that you  
20       produced and referred to is in your source back. It  
21       was published by Jeglum in 1989.

22                  A. What page of my report are you  
23       talking about, Madam?

24                  MS. SWENARCHUK: Source book 2.

25                  THE WITNESS: I realize I'm dealing with

1       this.

2                   MS. CRONK: Q. If you could go to Tab 26  
3       of the black binder.

4                   A. 26?

5                   Q. Yes.

6                   A. Yes. "Alternate strip clearcutting  
7       to regenerate black spruce, why aren't we  
8       using it more."

9                   Q. Now, this articles is also by John  
10       Jeglum, the same John Jeglum whose article we saw a  
11       moment ago; is that correct?

12                  A. There is only one Jeglum, okay.

13                  Q. And this article appears in your  
14       source book for Panel 3; does it not?

15                  I can assist the Board it does so. So  
16       unless it is useful to you, Madam Chair, there is no  
17       need to assign a separate exhibit number. It is  
18       already before you.

19                  MADAM CHAIR: All right, thank you.

20                  MS. CRONK: Q. With respect, Mr. Marek,  
21       to the type or the nature of the strip cutting that was  
22       involved, could I ask you to go to page 2 of this  
23       article, please, the 1989 article.

24                  MADAM CHAIR: One moment, Ms. Cronk.

25                  THE WITNESS: Again we are talking

1 about --

2 MADAM CHAIR: Excuse me, Mr. Marek.

3 THE WITNESS: Oh, sorry.

4 MADAM CHAIR: Ms. Swenarchuk, which  
5 source book is the Jeglum article in?

6 MS. SWENARCHUK: It is in Volume II,  
7 1515B, Madam Chair.

8 MADAM CHAIR: Thank you.

9 MS. CRONK: Q. You have a copy for your  
10 convenience, Mr. Marek, right there at the tab I just  
11 showed you.

12 A. Tab 26.

13 Q. Could you go to page 2 of the  
14 article, please.

15 A. Yes.

16 Q. I would ask you to take a look at the  
17 first full paragraph.

18 A. "The term strip cutting has been part  
19 of..."

20 Q. Yes, thank you. Mr. Jeglum indicates  
21 in the third full sentence:

22 "The kind of strip cutting being  
23 considered in this paper is alternate  
24 strip clearcutting with a two cut system.  
25 The first cuts are naturally regenerated

1 by seeding from the leave strips that are  
2 left for a few years, the leave strips  
3 are then cut and artificially regenerated  
4 or cut and left to regenerate naturally."

5 Stopping there for a moment. Is that the  
6 type of alternate strip clearcutting that was the type  
7 of modified harvest used in this project?

8 A. That's correct.

9 Q. Jeglum goes on to indicate that:

10 "This particular paper..." his 1989  
11 paper,

12 "...summarizes the results of a 13-year  
13 cooperative study to determine the  
14 biological and economic feasibility of  
15 alternate strip clearcutting."

16 He goes on to describe, and he will come  
17 back to this in more detail, his view of the results  
18 and that is the 13-year cooperative study to which he  
19 is referring is again the same project work by the MNR,  
20 the CFS and Domtar.

21 A. That's the same project of which I  
22 was the Chairman for.

23 Q. Yes.

24 A. Yes.

25 Q. Now, Mr. Marek, would you agree that

1 Jeglum, in light of his work in this particular project  
2 over some 13 years and other work undertaken by him, is  
3 an expert on alternate strip cutting of black spruce?

4 A. Well, first of all, you are mistaken.  
5 Mr. Jeglum didn't work for 13 years on that project.  
6 He was parachuted in after three or four -- three years  
7 after the project started; in other words, he was hired  
8 by the CFS to fill in the gap of scientific know-how.

9 Yes, he is a scientist in the field of  
10 taxonomy.

11 Q. Would you agree, given the nature of  
12 the work that he did do on this project and otherwise  
13 with respect to strip cutting, that he is an expert on  
14 modified harvesting of black spruce for regeneration?

15 A. He's an expert in certain segment of  
16 the strip cutting. Obviously he's not the operational  
17 man. He is a scientist who dealt with taxonomy, who  
18 dealt with species, regeneration in this black spruce  
19 and the things with which deal, more or less, with  
20 identification of certain segment of the ecosystem  
21 studied.

22 Q. All right, thank you. Now, you have  
23 urged the Board in the course of your evidence and for  
24 reasons that you have outlined that there should be far  
25 extensive use of the alternate strip cutting modified

1 harvesting method for regeneration of black spruce in  
2 this province than there currently is?

3 A. On certain sites, correct.

4 Q. When you say "on certain sites", you  
5 refer specifically to the type of shallow or fragile  
6 sites that you have described?

7 A. Fragile or sensitive, unstable sites,  
8 including the shallow soil over bedrock, correct.

9 Q. I would like to put in yhr context of  
10 this discussion adoption of that type of system on a  
11 wider basis. Could I ask you to go to page 5, please,  
12 of the Jeglum article, the same article.

13 A. Page 5, correct.

14 Q. And I would direct your attention to  
15 the second full paragraph in which Jeglum indicates he  
16 had been the discussing the economic studies that were  
17 undertaken and indicates:

18 "We can extrapolate from the economics  
19 study to estimate the potential savings  
20 on a province-wide basis. With an  
21 annual harvest in Ontario of 220,000  
22 hectares, the area of black spruce sites  
23 eligible for strip cutting is estimated  
24 to be around 22,000 hectares per year."  
25 Now, stopping there for a moment, Mr.

1 Marek. Jeglum is suggesting then, as I read this, that  
2 the areas eligible on a province-wide basis for strip  
3 cutting of black spruce is about 10 per cent of the  
4 annual total provincial harvest; correct?

5 A. That's what he says.

6 Q. Yes. Then he continues on:

7 "This is based on the assumptions that 40  
8 per cent of the annual harvest consists  
9 of the black spruce working group and  
10 that 25 per cent of this..." meaning, I  
11 take it, of the 40 per cent,

12 "...consists of poor shallow soil and wet  
13 organic sites located far from the mill  
14 or the road."

15 He goes on to say:

16 "If we compare the options of clearcut  
17 and plant with strip cut and plant, the  
18 second cut strips, the annual renewal  
19 savings are 9.2 million and the net  
20 harvesting and renewal savings are  
21 \$4-million."

22 We will come back to the cost aspect  
23 articles in some detail, Mr. Marek, but dealing with  
24 the findings as reported by Jeglum and referred to, it  
25 appears that of the total area in the province eligible

1 for strip cutting for black spruce; that is, 10 per  
2 cent of annual harvest, Jeglum is reviewing the results  
3 of the studies and suggesting that the net harvesting  
4 and renewal savings are \$4-million, again, on a  
5 province-wide basis, not particular to the area of the  
6 undertaking; is that correct? That is what he is  
7 saying?

8 A. Yes, he states certain things which I  
9 suppose is stated due to the knowledge and --

10 Q. I beg your pardon, sir?

11 A. Jeglum's statement in the context of  
12 sizes, numbers is his subjective statement. I may  
13 disagree with it, I may say that these figures are  
14 extremely conservative.

15 However, he feels, based on his  
16 knowledge, that -- just quoting what he says, certain  
17 percentages, that's his opinion. I respect it, I may  
18 disagree with it.

19 Q. I understand. Then could I ask you,  
20 if you would, please, to go to Tab 17 of the black  
21 binder.

22 A. Page -- tab what, 17?

23 Q. Tab 17.

24 A. Right.

25 Q. The document at Tab 17, Mr. Marek, is

1 an extract from the 1988 statistics.

2 Q. Yes. It is an extract from the  
3 1988/1989 statistics of the Ontario Ministry of Natural  
4 Resources.

5 Madam Chair, we searched this last  
6 evening and my understanding is that this has not been  
7 marked before as an exhibit. I would ask that these  
8 three pages be marked as the next exhibit.

9 MADAM CHAIR: That will be Exhibit 1557.  
10 Describe it again, please, Ms. Cronk.

11 MS. CRONK: Yes. It is an extract from  
12 the statistics of the Ministry of Natural Resources for  
13 1988/89 comprising three pages.

14 ---EXHIBIT NO. 1557: Three-page extract from the  
15 statistics of the Ministry of  
Natural Resources for 1988/89.

16

17 MS. CRONK: Q. Mr. Marek, could I ask  
18 you to go to the third page, if you would, please,

19 A. There are two pages. The title is  
20 statistics 88/89 and there is -- what page do you wish  
21 me to...

22 Q. The last one.

23 A. The last one, okay.

24 Q. Looking at the last one, Mr. Marek, I  
25 would direct your attention to the information

1 contained in the bottom half of the page which is  
2 entitled Area Cut on Crown and Patent Land in years  
3 ending March 31. Do you see that?

4 A. Yes.

5 Q. All right. I understand this to be  
6 setting out the total harvest area on Crown and patent  
7 land for each of the years indicated.

8 I would ask you to look at the totals and  
9 for 1987 there is an indication that the total  
10 provincial cut on Crown and patent land was 228,464  
11 hectares. Do you see that under 1987, the total cut?

12 A. Yes, 1987 is 228 total. ...464.

13 Q. And in 1988 the total is 237,188  
14 hectares?

15 A. Correct.

16 Q. And, again, that's on a province-wide  
17 basis?

18 A. Correct.

19 Q. All right. That being the case, if  
20 Jeglum is correct in his opinion regarding the  
21 eligibility of lands for strip cutting for black spruce  
22 in the province -- just to update the numbers he was  
23 using in 1988, we would be looking at roughly 10 per  
24 cent of the total provincial harvest or about 23-,  
25 24,000 hectare--

1                   A. Yes.

2                   Q. --is that correct? That's, again,  
3                   for the province as a whole and would be smaller still  
4                   for the area of the undertaking itself, just for the  
5                   area of the undertaking?

6                   A. Yes.

7                   Q. All right. Now, you have indicated  
8                   in your evidence several times, Mr. Marek, as I  
9                   suggested earlier, your opinion that modified  
10                  harvesting should be used far more extensively in the  
11                  boreal harvest than it is currently?

12                  A. Correct.

13                  Q. When you talk about modified  
14                  harvesting in that context, I understood you to be  
15                  speaking about alternate strip cutting, is that,  
16                  correct, or group seed tree approach; one of the two?

17                  A. Well, the prescriptions will vary.  
18                  Alternate strip cutting is one of the smaller area  
19                  clearcut management. It may be three cut system, it  
20                  could be two cut system, all kind of modification of  
21                  these approaches in modified cutting or small clearcut  
22                  management.

23                  Q. All right. So among the variables  
24                  are things like whether it is a two- or three-cut  
25                  system, leave period, length of leave strips, all of

1           that?

2           A. Right.

3           Q. Am I right that when you talk about  
4         modified harvesting, what you were talking about is  
5         alternate strip cutting or group seed tree system?  
6         Those are the two generic methods?

7           A. So far use which I don't agree with.  
8         I do not agree with these terms used presently.

9           Q. I see. Is there a third method that  
10        I have not mentioned?

11          A. Well, many other methods, Madam. I  
12        think the description of silvicultural methods is  
13        perhaps too simplified here in this case. There are  
14        many other approaches to do it.

15          Q. Well, perhaps I could put it this  
16        way. In the terms and conditions that have been filed  
17        by Forests for Tomorrow with the Board, that they urge  
18        should be accepted by the Board, what is being  
19        discussed when it comes to black spruce is the strip  
20        cutting method?

21          A. No, I'm quoting it purposely in my  
22        report, small area clearcut management, Madam.

23          Q. Yes, I understand that.

24          A. And when I specify the two coupe  
25        system, alternate strip cutting...

1                   Q. Let's distinguish between what your  
2 evidence is and we will come back to the terms and  
3 conditions in a moment.

4                   When you talk about strip cutting, do you  
5 mean the two coupe system?

6                   A. No, I mean all kind. There may be  
7 three coupe system, it may be 10 coupe system.

8                   Q. When you talk about alternate strip  
9 cutting and modified harvesting that's what you are  
10 talking about, either a two or a three-coupe system of  
11 cut in various ways; is that correct?

12                  A. Again, using terminology presently  
13 used.

14                  Q. I am trying to find a basis of  
15 understanding between us. I think I now have it.

16                  With respect to the terms and conditions  
17 proposed by Forests for Tomorrow, Exhibit 1416A has  
18 been provided to the Board. That's the revised  
19 silvicultural prescription terms and conditions?

20                  A. Right.

21                  Q. Am I right -- well, just a moment.  
22 Do you have a copy of it, Mr. Marek?

23                  A. Yes, I have a copy here somewhere.

24                  Q. Perhaps you should put it in front of  
25 you, sir.

1                   A. Have you got a spare one, please,  
2 there somewhere? I should have it here. I think I  
3 have it. Silvicultural prescriptions.

4                   MS. SWENARCHUK: 1416A.

5                   THE WITNESS: I have it here, Ma'am.

6                   MS. CRONK: Q. Just so we are clear, Mr.  
7 Marek, when it comes to the black spruce working group,  
8 at page 2 of Exhibit 1416A, the type of modified  
9 harvesting being proposed for that working group by  
10 Forests for Tomorrow is strip cutting, patch cutting or  
11 block cutting with further details provided as to how  
12 Forests for Tomorrow would like to see that place take  
13 place?

14                  A. Yes, silvicultural prescriptions.

15                  Q. When it comes to white spruce, the  
16 system being proposed by Forests for Tomorrow is the  
17 seed tree method where possible; is that correct?

18                  A. Correct.

19                  Q. All right. When Forests for Tomorrow  
20 talks about modified harvesting in terms of its terms  
21 and conditions that's what we are talking about for the  
22 spruce groups, for black spruce and white spruce?

23                  A. Would you come again, please?

24                  Q. I will leave it, Mr. Marek.

25                  You were asked by Mr. Martel during the

1 course of your evidence-in-chief on two occasions that  
2 I noted what the objection was to doing it the way you  
3 suggest, harvesting in the way you suggest.

4 You indicated that it was an economic  
5 issue essentially, that it was easier to clearcut, it  
6 was the simple way and you expanded on that. Do you  
7 recall giving that evidence?

8 A. Yes. The economical problems of any  
9 deviation from large area clearcutting is generally  
10 recognized throughout the world, Madam.

11 Q. Yes. And your response, as I  
12 understood it, to Mr. Martel was that the economic  
13 issue was really the driving force in this discussion.  
14 Do I have that correctly?

15 A. Yes.

16 Q. All right. I am going to suggest to  
17 you, Mr. Marek, that there are a whole host of other  
18 factors which may very well be influencing opposition  
19 to broad scale use of modified harvesting in the way in  
20 which you discuss it in the area of the undertaking,  
21 some of which --

22 A. Please do so.

23 Q. Yes. Some of which are  
24 silviculturally oriented, some of which are, as you  
25 pointed out, economically oriented and some of which

1       are purely operationally -- pure operational  
2       constraint, practical items?

3                   A. Correct.

4                   MADAM CHAIR: Shall we break before we  
5       get started into this questioning?

6                   MS. CRONK: That will be fine.

7       Thank you, Madam Chair.

8                   MADAM CHAIR: Thank you, Ms. Cronk.

9       ---Recess taken at 10:25 a.m.

10      ---On resuming at 10:45 a.m.

11                  MADAM CHAIR: Please be seated.

12                  MS. CRONK: Thank you, Madam Chair.

13                  MADAM CHAIR: Ms. Cronk, just a small  
14       housekeeping matter for your information and all the  
15       other parties.

16                  Now, if a party is going to submit to the  
17       Board a series of exhibits and the list is more than  
18       one or two exhibits, it would be most helpful if you  
19       would give us a typed page with the citation on it,  
20       leave a blank for the exhibit number and then we can  
21       just place it in our books.

22                  It is distracting to have to record that  
23       kind of thing and we like to keep it in order in our  
24       books. So if there is going to be more than two or  
25       three exhibits submitted we want a typed list from you

1 of the citations.

2 Thank you.

3 MS. CRONK: Perhaps in this particular  
4 case the index might assist at the beginning of the  
5 book. I realize some of these have been marked out of  
6 order, but we will go back and redo that and put them  
7 in order for you.

8 MADAM CHAIR: No, that's fine, we don't  
9 need what has been done so far.

10 MS. CRONK: Fine.

11 MADAM CHAIR: And today there won't be  
12 any chance, but if tomorrow you have a series of seven  
13 or eight exhibits you want to put in all at the same  
14 time, then give us a typed list so we can just enter it  
15 in our book that way and we fill in the exhibit numbers  
16 as we go along.

17 MS. CRONK: Thank you.

18 Q. Mr. Marek, we were about to turn to  
19 the Robinson article. Could I ask you to go back to  
20 Tab 18.

21 A. Yes, Ma'am.

22 Q. Perhaps to put this in a context,  
23 just before we broke you will recall that I drew your  
24 attention to the questioning of you that had arisen  
25 during your evidence-in-chief with respect to the basis

1       of objection, if any, to the kind of modified  
2       harvesting measures that you were proposing and what  
3       was considered to be the major factor against that sort  
4       of layout and planning.

5                   In the transcript, Volume 254 of your  
6       evidence on Thursday, November the 1st, the second  
7       occasion on which this issue arose is reported -- so  
8       you have it in context. Mr. Martel asked you at page  
9       45,815:

10                  "What is considered the major factor  
11                  against this sort of layout and  
12                  planning?"

13                  Your answer was:

14                  "Restriction. It's a restrictive method  
15                  of doing things; in other words, you  
16                  cannot remove all timber, all volume from  
17                  the area. That's No. 1. No. 2, there is  
18                  an extra effort to be made in this kind  
19                  of cutting because, you know, in the  
20                  clearcutting you just go and say: Okay,  
21                  this is going to be clearcut, lay out the  
22                  roads usually and then manage from there  
23                  on."

24                  You went on to explain the difference in  
25       planning that was required and then you indicated:

1                   "Now, we went through it, we went through  
2                   these things in the 60's quite  
3                   frequently and one of the main  
4                   objections at that time by Industry was  
5                   the simple cost, simple cost."

6                   Then you went on to say:

7                   "The extra cost has been expressed on  
8                   many meetings we have which I chaired  
9                   myself and initiated by myself. You know  
10                  always the cost was a very important  
11                  aspect. And perhaps let's be clear,  
12                  decisions in implementing these things in  
13                  1967 was, who's going to pay the extra  
14                  operating cost, whose going to pay for  
15                  it, should government pay for it or..."

16                  and then you trailed off.

17                  A. That is correct.

18                  Q. In fairness to you, Mr. Marek, do you  
19                  recognize that there are, quite apart from financial  
20                  considerations, silvicultural concerns that have been  
21                  expressed both by government and Industry foresters  
22                  over the years as to the advisability of using modified  
23                  harvesting measures on a large scale?

24                  A. Yes. I have heard it, yes.

25                  Q. And do you acknowledge as well that

1       there are operational and practical constraints in the  
2       field to adoption of modified harvesting measures on a  
3       large scale?

4                   A. As compared to the simple method of  
5       large area clearcutting or removal of the timber, yes.

6                   Q. All right. Then dealing first, if we  
7       could, with the Robinson article, could I ask you to go  
8       to page 437 of it. That's Exhibit 1549.

9                   A. Correct.

10                  MS. SWENARCHUK: What page, sorry?

11                  MS. CRONK: 437. It's the second from  
12       the last page.

13                  THE WITNESS: Second from the last.

14                  MS. CRONK: Q. Page of the article.

15                  A. On the left side?

16                  Q. Yes. As it happens it is on the left  
17       side.

18                  A. "The involvement of project..."

19                  Q. No. At page 437, Mr. Marek.

20                  A. Yes.

21                  Q. Do you see it says Project  
22       Organization on the left side?

23                  A. Correct.

24                  Q. I direct your attention to the last  
25       paragraph.

1                   A. "The project has been productive and  
2                   has..."

3                   Q. Yes. Now, as I understand it, Mr.  
4                   Robinson at this time was on the black spruce working  
5                   group; right?

6                   A. Correct.

7                   Q. He, in this article, was providing an  
8                   introduction to the Nipigon workshop as to what has  
9                   been involved in the project over the years and what  
10                  the results of all these various studies were?

11                  A. Mr. Robinson was not on the black  
12                  spruce working group at that time because the spruce  
13                  working group has been dissolved.

14                  Q. I'm sorry, I meant originally.

15                  A. Originally, correct.

16                  Q. In this article he is providing a  
17                  background for the workshop about what was entailed in  
18                  the project?

19                  A. He was invited to the meeting in  
20                  Nipigon as kind of leader of discussion there and he  
21                  published it later on, this article.

22                  Q. Thank you. In this paragraph, at the  
23                  bottom of page 437 on the left he indicates:

24                  "The project has been productive and has  
25                  influenced the thinking of forest

1                   managers in Ontario. Currently, strip  
2                   cutting is included as a silvicultural  
3                   option in many of the forest management  
4                   agreements in Ontario, mainly for poorer  
5                   sites or areas that are too far from  
6                   access roads for planting."

7                   Stopping there just for a moment. Do you  
8                   acknowledge, Mr. Marek, that it is a silvicultural  
9                   option that is recognized under a number of FMAs in the  
10                  province?

11                  A. Correct. I have silvicultural  
12                  prescriptions right with me and several of them talk  
13                  about strip cutting, correct.

14                  Q. Mr. Robinson goes on to indicate:  
15                  "It is, therefore, regarded as an  
16                  extensive method of forest management and  
17                  poorer stocking and distribution of  
18                  regeneration can be expected,  
19                  particularly on the second cut strips."

20                  Now, Mr. Robinson is raising there, is he  
21                  not, a concern as to the likelihood of regeneration  
22                  success as measured by stocking and distribution,  
23                  particularly on the second coupe?

24                  A. Correct.

25                  Q. All right. And that is a

1 silvicultural based concern that he is identifying--

2 A. Correct.

3 Q. --is that fair? All right. Now,  
4 could I ask you to go next, if you would, please, to  
5 tab --

6 MR. MARTEL: -Could I ask a question of  
7 clarification.

8 MS. CRONK: Of course, sir.

9 MR. MARTEL: Do you agree with that or do  
10 you disagree with that statement by Robinson saying  
11 that there could be poorer stocking of the second  
12 coupe, the second strip?

13 THE WITNESS: Well, I have not been asked  
14 that question to answer, so obviously I wouldn't react  
15 to it.

16 MS. CRONK: You have now.

17 MR. MARTEL: You have now been asked.

18 THE WITNESS: Okay. No, I think that  
19 second coupe system regeneration is depending on many  
20 factors; and that is, if you leave the areas untreated  
21 and you won't have a seed source or you will not  
22 prepare the site preparation properly, then of course  
23 you may have a problem and you have to go back and  
24 start other method of regeneration, like tree planting  
25 and seeding or whatever.

1                   But my experience is that this has not  
2    been adequately researched. We have no more black  
3    spruce working group since 1984, I think, and I thought  
4    that this research or this group will provide answers  
5    to it, and what's happening now we are guessing and  
6    assuming that the regeneration may not be adequate and  
7    so on.

8                   Personally, from my experience I have a  
9    good results of subsequent treatment of these sites, I  
10   never deem necessary to tree plant it. I always get  
11   enough natural regeneration, "natural regeneration",  
12   40, 60 per cent of these strips. And I think that when  
13   you achieve certain regeneration standard on these  
14   second group coupes or these areas which were cut after  
15   the first coupe, that you will always get enough  
16   regeneration to say that area is satisfactory restocked  
17   because we have now standards where only 40 per cent of  
18   black spruce or white spruce will have to be benchmark  
19   for satisfactory regenerated to their working group.

20                  So I always get more than 40 per cent in  
21    the second coupe, second cut which was equal to some of  
22    the standards we are applying for regeneration over the  
23    province, Madam.

24                  My experience is that the problem of  
25    second coupe is the way we treat the second cut. We

1 treat it in some way under normal operation where you  
2 cannot do very much because the damage to this site has  
3 been very severe by logging equipment. I think that  
4 can be avoided, just do it properly. So I don't think  
5 we are going to have that problem, thus we will  
6 increase the natural regeneration in this second coupe.

12 THE WITNESS: But you have lack of seed  
13 source. Sir, don't forget that the reason we are  
14 leaving that strip standing in second or third cut is  
15 adequate supply of seed from the standing timber,  
16 right, into the area clearcut adjacent to it.

Now, you remove the seed source, of course you remove majority of the seeds and cones, especially now when we are doing full-tree logging, removing total foliage from the area.

If we would leave at least slash back  
with cones, which would eventually open up and have a  
seed source that way according to the microsite, then  
we of course would immediately get quite a boost in  
natural regeneration, but now everything is being

1       removed, including of course the needles and branches  
2       and cones with it and go to the logging site along the  
3       roads.

4                     Then of course you are completely  
5       removing unless you have some neighbouring stands  
6       farther away from the area which will supply that seed  
7       in, but this is very incidental and very sporadic  
8       because when you have large area clearcut you don't  
9       leave too many seeds behind except poplar or some of  
10      other things. Is that...

11                  MR. MARTEL: Yes.

12                  THE WITNESS: Thank you.

13                  MADAM CHAIR: Go ahead, Ms. Cronk.

14                  MS. CRONK: Q. Mr. Marek, is it fair to  
15       say that this issue of satisfactory regeneration of the  
16       second cut is a complicated one?

17                  A. It's more complex, no doubt about it.

18                  Q. Yes. And there are a number of  
19       factors which have been identified by scientists and  
20       foresters who have been engaged in strip cutting as  
21       being complicating factors, the first you've already  
22       identified and, that is, ways in which you can ensure  
23       that a satisfactory seed source is available when you  
24       come in and do that second cut. That's one of the  
25       items?

1                   A. Certainly it's a problem in full-tree  
2     logging when you remove the whole tree from the area,  
3     including the cones.

4                   Q. Well, we'll come and talk about  
5     full-tree harvesting, but at the moment I'm talking  
6     about what foresters and scientists, including  
7     yourself, have identified as being issues related to  
8     the regeneration of the second cut in strip cutting.  
9     So the seed source that you have mentioned to Mr.  
10    Martel is obviously an issue of great concern?

11                  A. That is a great concern.

12                  Q. Yes. And the length of time, the  
13     length of the leave period, the length of time that you  
14     wait between that first cut and the second cut, or a  
15     third cut if there is one, is also very important  
16     because it influences the availability of a seed  
17     source; correct?

18                  A. Well, that is a simple answer to it.  
19     I think that that issue is more that in research we  
20     have done, and it's rather summarized in some of these  
21     articles by Jeglum, the leave period depends very much  
22     on the satisfactory regeneration in the clearcut area  
23     adjacent to the standing timber.

24                  Q. Meaning the first cut?

25                  A. Meaning the first cut or, for that

1 matter, second cut when you have a tree ecosystem.

2 Q. Yes.

3 A. From my experience I had considerable  
4 reduced the leave period; in other words, what I have  
5 achieved in my experience way back very satisfactory  
6 regeneration to stocking of black spruce in very short  
7 time two, maximum three years.

8 Now, many people, Madam Chair, state to  
9 me that this period is too short, that eventually in  
10 six years when you have a three years leave period and  
11 you can clearcut it that in six years -- matter of fact  
12 in three years you're going to have a complete  
13 clearcut.

14 Q. Well, excuse me, Mr. Marek, I know  
15 there's a great issue as how long that leave period  
16 should be.

17 A. Yes.

18 Q. And setting aside for the moment the  
19 various views on that, am I right with the basic  
20 principle and, that is, the length of the leave period  
21 is an important factor when assessing the likelihood of  
22 successful regeneration on the second or the third cut?

23 A. No, regeneration hasn't got -- it's a  
24 logging problem that the loggers have to go back --  
25 regeneration is not a problem, you get regeneration,

1        Madam, you get satisfactory regeneration sometimes in  
2        very short period of time, you don't have to wait five,  
3        10, 15 years.

4                      The problem is that you have to go back  
5        and start removing timber which was there and the  
6        problem arises, how you going to do it, in other words,  
7        logging technique which has to be used, No. 1, not to  
8        damage already established regeneration; No. 2 is, how  
9        you regenerate the strips which were the secondary  
10      coupe; and, thirdly, the damages which can occur during  
11      the period of waiting to the remaining timber, blowdown  
12      and damages which occur when you expose areas to the  
13      environment.

14                     Q. Well, all I am suggesting, Mr. Marek,  
15        is that the issue of leave time has been identified by  
16        some scientists and foresters as an issue relevant to  
17        the discussion of regeneration of the second coupe.  
18        You don't think it is, I gather, from what you said.

19                     A. To some degree yes, Madam, but it's  
20        just one of the factors that has to be considered on  
21        its merits and the merits may be from site to site, the  
22        merits can occur with the time itself, and I think in  
23        prescription we have to be more specific and say:  
24        Okay, this is a prescription, we are going to work for  
25        regeneration and so on and so...

1                   So that's what I want to say.

2                   MADAM CHAIR: Excuse me, Mr. Marek.

3                   THE WITNESS: Yes, Madam.

4                   MADAM CHAIR: What is the shortest period  
5                   of time that you have seen any sort of successful  
6                   regeneration?

7                   THE WITNESS: Two years.

8                   MADAM CHAIR: And what is the cycle for  
9                   white spruce and black spruce to produce seeds?

10                  THE WITNESS: Completely different thing,  
11                  Madam. I am not prescribing here any treatment of this  
12                  nature to white spruce regeneration. As you probably  
13                  noticed in my presentation to FFT or recommendation, I  
14                  am talking completely different approach to white  
15                  spruce management. So we shouldn't mix up these two  
16                  things.

17                  MADAM CHAIR: With black spruce.

18                  THE WITNESS: We are talking strictly  
19                  about black spruce here.

20                  MADAM CHAIR: And what is the seeding  
21                  cycle for black spruce, how often does black spruce  
22                  produce seed?

23                  THE WITNESS: Black spruce produce nearly  
24                  ever year cones. While there may be a period of three  
25                  or four where the black spruce is able to produce extra

1 heavy cone, numbers on the trees, the black spruce is a  
2 tree which, No. 1, periodically from year to year - and  
3 this is a marvelous thing what fascinates me - that we  
4 have a tree species which is so, so adept by  
5 regeneration of natural ways, you know, tree which  
6 always have cones, tree which have cones which open  
7 periodically; matter of fact, in winter, during the  
8 winter you can find the seed coming from the tops of  
9 these trees.

10 And I think that's a great advantage  
11 towards other conifer species throughout the world,  
12 Madam, and I have dealt with many of them, that you  
13 have a steady supply of seed present, steady supply  
14 with exceptional supply every once in a while, every  
15 once in a while you get extremely heavy cone crop and  
16 supply of seed, but usually under only condition you  
17 have a steady supply of seed to the sites which should  
18 be regenerated naturally.

19 MADAM CHAIR: Thank you.

20 MR. MARTEL: Can I just back up for one  
21 moment, because you said there are three problems  
22 involved with it going back, the first being that you  
23 don't damage the area that's been regenerated.

24 THE WITNESS: Right.

25 MR. MARTEL: Damage can occur due to the

1       blowdown, which was the third one. I'm afraid I missed  
2       the second one, my shorthand isn't good enough.

3                     THE WITNESS: Well, I think that it was a  
4       problem to come back to the sites and harvest the trees  
5       which were left behind.

6                     MR. MARTEL: That's the second one.

7                     THE WITNESS: Is that so?

8                     MR. MARTEL: No, I don't think -- I think  
9       the first point you said when you come back, you're  
10      right, when you come back you've got to be careful that  
11      you don't damage the area that has already been  
12      regenerated, that's the second point of concern.

13                  MS. CRONK: It was an access point, Mr.  
14      Martel, as I wrote it down.

15                  MR. MARTEL: Oh, okay.

16                  MS. CRONK: Being able to access for the  
17      purposes of the second or the third cut.

18                  THE WITNESS: To access.

19                  MR. MARTEL: All right. Fine, thank you.

20                  MS. CRONK: Q. Mr. Marek, you have given  
21      evidence just now to the Board and earlier in your  
22      presentation to the Board that you have experienced  
23      very good natural regeneration results following the  
24      strip cutting method and you said, I thought just now,  
25      that you've achieved 40 or 50 per cent stocking on the

1 first and second cuts?

2 A. That is correct.

3 Q. All right.

4 A. On the second coupe, yeah.

5 Q. And do you regard that as an  
6 acceptable level of stocking achievement on the second  
7 coupe?

8 A. Well, this got to be because 40 per  
9 cent is the present standard of regeneration to working  
10 group classification.

11 Q. All right.

12 A. So it's better than 40 per cent,  
13 Madam.

14 Q. We'll come and look, Mr. Marek, at  
15 some of the results that were actually achieved on  
16 these areas, but in terms of this whole issue of the  
17 problems attaching the regeneration of the second  
18 coupe, is it also correct that some foresters and  
19 scientists working in this field have identified as a  
20 problem related to that the issue of density, the  
21 problem of potentially getting too many--

22 A. Very much so.

23 Q. --black spruce in because it's  
24 uncontrolled?

25 A. That's right.

1 Q. Which leads to--

2 A. Spacing problem.

3 Q. Yes, exactly. So there are a number  
4 of issues that impact on the ability to achieve  
5 successful regeneration on the second coupe?

6 A. Oh.

7 Q. We agreed there?

8 A. Well, we don't.

9 Q. We don't agree?

10 A. No, we don't agree, because that  
11 shouldn't be the case.

12 Q. Yes, but is it? Is it the case,  
13 there are a number of factors that influence the  
14 ability to get --

15 A. In order to regenerate satisfactory  
16 black spruce, we must be striving in the future for  
17 highest stocking as possible.

18 Q. Mr. Marek, I accept that. Could I  
19 just ask you to focus on the question I asked you, sir;  
20 and, that is, there are a number of factors which  
21 impact on the ability to achieve successful  
22 regeneration on the second coupe?

23 A. What you call successful  
24 regeneration?

25 Q. I don't say they're right or wrong,

1 I'm just saying --

2 A. What do you mean by successful  
3 regeneration, Madam?

4 Q. Let's take your 40 or your 50 per  
5 cent. There are a number of things that have to be  
6 taken into account?

7 A. That's right. Is that 40 per cent  
8 for black spruce?

9 Q. Just take 40 or 50 what you said was  
10 good regen for second coupe.

11 A. That's right.

12 Q. There are a number of issues you have  
13 to look at?

14 A. That's right.

15 Q. Thank you. And indeed we saw in  
16 Jeglum's article in 1989 in his description of the  
17 strip cutting method his suggestion that the leave  
18 strips are cut on the second or the succeeding coupes?

19 A. Mm-hmm.

20 Q. And are either artificially  
21 regenerated or cut and left to regenerate naturally.  
22 You remember that's what he described as being involved  
23 in the process?

24 A. Correct.

25 Q. Yes. And isn't precisely because in

1 some circumstances problems in achieving adequate  
2 regeneration of the second succeeding cuts has been  
3 experienced that artificial regeneration methods have  
4 been adopted with respect to those cuts, in some  
5 situations?

6 A. That is always the last resort. If  
7 you don't get satisfactory regeneration,  
8 "satisfactory", quotation, please, if you don't get  
9 satisfactory regeneration you have to go and start tree  
10 planting in order to achieve the stocking or the  
11 desired representation of primary species on a cut-over  
12 site. That is always last resort, Madam.

13 Q. And that's exactly why it's done  
14 because in some situations there's problems in getting  
15 at --

16 A. There's always failures in forestry,  
17 Madam. There's always failures.

18 Q. Could I ask you to go to Tab 19 then,  
19 if you would please, that's Professor's Jeglum's  
20 article, Exhibit 1550.

21 A. Yes. 439?

22 Q. Yes. And could I ask you to go to  
23 page 440, please?

24 A. Four hundred and...?

25 Q. I'm sorry, that's at Tab 19 the very

1 next article.

2 A. Yeah, I got it.

3 Q. At page 440.

4 A. 440, that's correct.

5 Q. Left-hand column, Mr. Marek, first  
6 full paragraph Professor Jeglum indicates:

7 "In the boreal forest of Ontario  
8 alternate strip clearcutting has had  
9 limited application, but it has been  
10 applied mainly to black spruce on shallow  
11 soil uplands and on organic soils. That  
12 the levels of natural black spruce  
13 regeneration in strip cuts are  
14 significantly higher than those in larger  
15 clearcuts has been well documented  
16 (Fraser, et al), however, desirable  
17 levels of regeneration are not always  
18 achieved with strip cutting and factors  
19 such as poor seed supply, several years  
20 of dry weather, and poor site preparation  
21 may explain failure or marginally  
22 acceptable levels of regeneration."

23 Now, Mr. Marek, just dealing with the  
24 factors identified by Professor Jeglum.

25 A. Yeah.

1 Q. Do you agree--

2 A. He's not a professor, he's a doctor,  
3 jeglum he's research scientist, Madam.

4 Q. All right, thank you. Do you agree  
5 that matters such as poor seed supply, several years of  
6 recurring dry weather and poor site preparation can all  
7 influence the achievement of successful regeneration on  
8 strip cuts?

9 A. That's a hypothesis.

10 Q. Yes. And he's suggesting that there  
11 are circumstances in which those factors may explain  
12 failure or marginally acceptable levels of  
13 regeneration?

14 A. That is hypothesis which has to be  
15 documented as yet, Madam. I discuss it with Dr. Jeglum  
16 very frequently and he inclines to agree with me, but I  
17 am fully aware that many foresters in the boreal  
18 forest, and depending where they are in the Clay Belt  
19 or if they are on the western end of the province, they  
20 feel that indeed that black spruce does not provide --  
21 does not provide steady seed as I have just suggested  
22 to the Board few minutes ago.

23 Now, my experience has shown to me that  
24 in area I have worked and in area I have visited, that  
25 seed supplies is secure, not perhaps in maximum amount

1       or numbers of seed, but in supply, and I would point  
2       out to you the article by -- from the research done in  
3       Raith where the seed trapping has been done continuously  
4       for several years and the scientists who work on it,  
5       that time it was Dr. Lorne Vidlak, state on many  
6       occasions that there is no lack of seed source over in  
7       the Raith area.

8                     Q. You're talking about the Losee  
9       article?

10                  A. The Losee article who -- Mr. Losee  
11       actually supply only partially, Lorne Vidlak was  
12       working most of it.

13                  Q. Vidlak did the research?

14                  A. Yes.

15                  Q. That's right. I suppose the point,  
16       Mr. Marek, is simply there: That experienced research  
17       scientists like Dr. Jeglum have raised as concerns  
18       these issues; that is, poor seed supply, dry weather,  
19       and poor site preparation as factors to be taken into  
20       account that may influence regeneration success?

21                  A. In some area perhaps, perhaps.

22                  Q. All right. And those are  
23       silviculturally based concerns?

24                  A. That has to be always -- yeah.

25                  Q. All right. And on this issue

1 generally of there always being a secure seed source,  
2 would you agree with me that we can't always control  
3 the untoward; things can happen that can influence the  
4 continuing availability of black spruce seed source?

5                   A. I agree. We have right now  
6 infestation of budworm which will affect, which will  
7 affect seriously seed supply, I agree.

8                   Q. For example, was it not the case in  
9 the early 1980s in the Clay Belt they experienced a  
10 period of six or seven years where there was an absence  
11 of sufficient black spruce seeds due to prolonged  
12 attack by spruce budworm?

13                  A. Yeah. In that case, Madam, I fail to  
14 see as yet very good documentation of seed trapping  
15 anywhere. You see these projects and these  
16 observations may be valid and not valid. I have as yet  
17 to see good documentation on this which perhaps should  
18 have been done by the Black Spruce Working Group that  
19 time in continuing.

20                  Q. You are aware, however, I take it  
21 though that there was that experience, however caused,  
22 of an absence of sufficient black spruce seed source  
23 not for one but for several years in the Clay Belt  
24 attributed to spruce budworm?

25                  A. I am aware of the statements.

1 Q. Yes.

2 A. But I cannot confirm validity of  
3 these statements.

4 Q. And in fairness to you the Clay Belt  
5 of course is an area in which you said you have  
6 sporadic knowledge of areas in the Clay Belt; is that  
7 right?

8 A. Yes, I was not there every week.

9 Q. All right. Dealing still with the  
10 Jeglum article, could I ask you to go back to page 4 --  
11 I'm sorry to go to page 443. Dr. Jeglum at page 443 is  
12 discussing site preparation.

13 A. Yeah.

14 Q. And I would draw your attention to  
15 the right-hand column of the article.

16 A. Mm-hmm.

17 Q. To the last full paragraph above the  
18 section entitled: Other Considerations. Do you see  
19 that, the paragraph above that, beginning with the  
20 words:

21 "With thorough scarification...",  
22 right-hand column. Do you see where it says,  
23 "Other considerations"?

24 A. Other considerations.

25 Q. Yes, the part above that.

1                   A. Right.

2                   Q. Beginning with the words:

3                   "With thorough scarification...", do you  
4                   see that?

5                   A. That's correct.

6                   Q. All right. Dr. Jeglum indicates  
7                   that:

8                   "With thorough scarification or abundant  
9                   spagnum, excessively high densities of  
10                  natural regeneration may occur."

11                 And he goe on to describe what occurred  
12                 in that regard in the study that he particularly  
13                 conducted.

14                 A. That's correct.

15                 Q. He indicated that:

16                 "Both 20-metre and 40-metre strips  
17                 achieved over 15,000 seedlings per  
18                 hectare in the 15 to 35 per cent  
19                 receptive seedbed class. This is  
20                 considered excessively dense and it is  
21                 more important to increase stocking than  
22                 density."

23                 So that's an illustration --

24                 A. Decrease. Is he saying decrease  
25                 stocking in --

1                   Q. To increase stocking than density.  
2                   He's saying it's more important to increase stocking  
3                   than density.

4                   A. That's right.

5                   Q. Now, Mr. Marek, would you agree that  
6                   that's an illustration of the type of silvicultural  
7                   concern that Dr. Jeglum was raising with respect to  
8                   site preparation and, with respect, as I suggested to  
9                   you, the possibility of getting too dense ingrowth by  
10                  natural regeneration?

11                  A. It's not concern at all, Madam.

12                  Q. All right. But Dr. Jeglum seems to  
13                  think it is. That's what he says; isn't it?

14                  A. Again --

15                  Q. I understand that you don't think it  
16                  is.

17                  A. No, no. Madam, let's be clear on  
18                  things, that we improved our outlook with the time too  
19                  on certain things, because Mr. Jeglum said this in a  
20                  paper 19 -- see, things are not static.

21                  Mr. Jeglum or Dr. Jeglum in discussion  
22                  with me on many times say maybe you are right, maybe it  
23                  should be this way, maybe stocking this. Madam, one of  
24                  the things in natural regeneration which you cannot  
25                  control the spacing and density, you always going to

1 have too much or too little, but it's man -- there's  
2 man ingenuity, foresters ingenuity who come in and  
3 control these things in such a way that you achieve  
4 kind of optimistic number density which is required for  
5 the site to recover and build a new forest floor, and  
6 so on.

7 Let me point out to the Board, Madam  
8 Chair, that large density or high density never  
9 bothered me because larger number of tree provide  
10 environment which can build up the site again to its  
11 original productivity. And I have dealt with it,  
12 Madam --

13 Q. Yes, we have heard your evidence on  
14 that, Mr. Marek.

15 A. Okay. With that, if you wanted to  
16 optimize these so-called densities or stockings  
17 initially, then man has to come in and do something  
18 about it, and what he does usually - and some time does  
19 it very well, sometimes does it very poorly - he  
20 control the density by tending or by spacing.

21 And I think that's a challenge for the  
22 future, that if we get satisfactory regeneration,  
23 rather too many than too little, we can space, we can  
24 optimize it and say: Okay, we are going to space it,  
25 as I did many times, many times, and I think some of

1       the spacing trials which I have done show me very  
2       clearly that I rather start with higher number than  
3       with just few numbers.

4                   Q. I understand your view on it.

5                   A. Okay.

6                   Q. Can we agree on this, Mr. Marek, that  
7       Dr. Jeglum is raising the issue of excessively high  
8       densities of black spruce in the circumstances that he  
9       described, for example that form of site preparation  
10      technique, as being a potential concern and he felt he  
11      had them too high?

12                  A. Madam, you know who did that site  
13      preparation?

14                  Q. Sir, please, respond to my question.

15                  A. No, I cannot because you have to  
16      qualify it.

17                  Q. He felt it was too high and he's  
18      raising that concerning.

19                  A. If Mr. Jeglum felt -- I can read and  
20      I agree that Mr. Jeglum said that the high densities  
21      are what, detriment.

22                  Q. Yes. And then --

23                  A. No, no. Does it really say it's a  
24      detriment to the site productivity, it's a detriment to  
25      the stock?

1                   Q. Does he not suggest expressly, Mr.  
2 Marek, that the ingrowth of seedlings were excessively  
3 high densities and they were considered excessively  
4 dense?

5                   A. Yeah, that's what I read.

6                   Q. And as I recall your evidence to the  
7 Board with respect to the area of your own strip  
8 cutting studies - and we will come back to this - you  
9 indicated that the stocking of your strip cuts in the  
10 first and second year were always well be beyond, you  
11 said always at least 80 per cent, and that the number  
12 of seedlings varied from 5 to 10 to 20 up to 50,000  
13 seedlings per acre.

14                  A. That is correct.

15                  Q. All right. So you obviously accepted  
16 a very high level of seedling ingrowth on some of those  
17 sites?

18                  A. As beneficial aspect to the forest  
19 management, Madam.

20                  Q. I understand your view.

21                  A. Okay.

22                  Q. And then could I ask you to go to the  
23 next page of the Jeglum article -- sorry, the same page  
24 but the column on the left this time and I would ask  
25 you to look, if you would please, at the fourth

1       paragraph down on the left. Fourth full paragraph down  
2       on the left.

3                   A. Is that page 441?

4                   Q. 444.

5                   A. 444.

6                   Q. Sorry, fourth paragraph down, fourth  
7       full paragraph down.

8                   A. "Most strips were oriented...?"

9                   Q. Next one, "Whenever..."

10                  A. "Whenever...", okay.

11                  Q. All right. Dr. Jeglum indicates:

12                  "Whenever there are some hardwoods in the  
13       original stand there is a potential  
14       problem of competition."

15                  A. Correct.

16                  Q. He refers to his earlier work.

17                  A. Right.

18                  Q. "This problem is also encountered in  
19       clearcutting but strip clearcutting may  
20       favour somewhat higher levels of  
21       regeneration from the seed of broad  
22       leaved trees that may be present in the  
23       residual strips. Hardwood control may be  
24       necessary at early stage of the juvenile  
25       stand development."

1                   A. Correct.

2                   Q. So Dr. Jeglum is also raising another  
3        silviculturally based concern, this time oriented  
4        towards the extent and degree of competition that  
5        follows on strip cutting?

6                   A. Mm-hmm.

7                   Q. And then looking at the next  
8        paragraph Dr. Jeglum indicates:

9                   "Another problem encountered in this  
10       study was that during the second cut the  
11       skidders often passed through the  
12       regenerated first cut strips damaging  
13       some of the regeneration."

14                  Now, stopping there for a moment, that is  
15       the point you were making to Mr. Martel, that that is  
16       one of the problems on the second cut?

17                  A. Could happen if sloppy logging is  
18       being done.

19                  Q. The point being that to get back in  
20       there, having left rows of standing timber, harvesting  
21       inbetween, to get back in there you often -- it's often  
22       a very counterproductive process that the logging  
23       equipment actually destroys the regeneration coming  
24       back in?

25                  A. Are you saying, Madam, that

1 counterproductive mean the sloppiness on the part of  
2 the operator, or poor layout or poor --

3 Q. I'm saying it defeats the objective  
4 of --

5 A. Of course if it is done sloppy, of  
6 course.

7 Q. Yes. And in fairness Dr. Jeglum goes  
8 on to indicate that the practice should be discouraged.  
9 You would obviously agree with that?

10 A. Obviously.

11 MS. SWENARCHUK: Where are you reading  
12 from, excuse me?

13 MS. CRONK: The same paragraph on page  
14 444, second last paragraph on the left-hand column.  
15 That was the second sentence.

16 Q. And Dr. Jeglum goes on to indicate:  
17 "However, if the final cut is done when  
18 there is a protective cover of snow...",  
19 he says on, but I think it should be.

20 "...or if high flotation fires are used  
21 some, modest degree of travel over the  
22 regenerated strips may be acceptable."

23 So he's suggesting some procedures which  
24 may alleviate the problem?

25 A. In winter time.

1 Q. In winter time.

2 A. Okay.

3 Q. And then if we look to the right-hand  
4 side on the same page to the recommendations section we  
5 see there a list of recommendations made by Dr. Jeglum  
6 based on his study.

7 A. Mm-hmm.

8 Q. Same page, Mr. Marek.

9 A. Yeah, I realize that. I am just  
10 looking at paper.

11 Q. Page 444. And I would ask you to  
12 look at the first three recommendations, if you would  
13 please. The first is:

14 "Employ strip cutting in stands dominated  
15 by black spruce or black spruce/jack  
16 pine. Usually the technique should be  
17 applied on poorer environmentally  
18 sensitive sites, especially shallow soil  
19 sites and poor organic soil sites and  
20 sites that have poor access or are far  
21 from the mill."

22 I take it you would have no disagreement  
23 with that proposition?

24 A. Well, I wouldn't isolate this as John  
25 does, I would probably broaden up the spectrum.

1                   Q. I see. But certainly you would  
2 agree, based on your evidence, that in the first  
3 instance it is to the sites you have described as being  
4 sensitive or shallow soiled that this type of technique  
5 would be particularly suitable?

6                   A. Depending on the -- depending on the  
7 terminology and classification of "shallow sites".

8                   Q. Yes. I'm talking about the language  
9 you've used, I'm talking about the ones that you've  
10 described as sensitive or fragile.

11                  A. Unstable sites generally.

12                  Q. And then his second recommendation:  
13                  "If there is significant aspen or white  
14 birch in the original forest regeneration  
15 levels of these species will be high and  
16 it may be necessary to control broad  
17 leaf competition early to favour black  
18 spruce and jack pine."

19                  So he's saying that given the competition  
20 problems that can result, he may have to do release  
21 treatments; correct?

22                  A. If this happen.

23                  Q. Yeah.

24                  A. I have to qualify, if there -- it  
25 shouldn't happen but if this happen.

1                   See, Madam Chair, and again we have to go  
2       in more detail. If you have high stocking of spruce  
3       initially, your competition will be minimized; if you  
4       have a poor stocking of regenerated strip, of course  
5       the poplar will move in and start competing.

6                   So the protective -- just like in the  
7       case of burning in the standing timber, you got to have  
8       high initiation of conifer representation in order to  
9       prevent.

10                  Q. That's the problem he's identifying?

11                  A. The problem.

12                  Q. Right. Now, Jeglum is suggesting  
13       that whenever there are some hardwoods in the original  
14       stand there is a potential problem of competition. Do  
15       you agree with that?

16                  A. There's always problem with  
17       competition, Madam.

18                  Q. All right. And that is certainly so  
19       where there are hardwoods in the original stand?

20                  A. Therefore, has to be removed.

21                  Q. All right. And then looking at the  
22       third recommendation in the column that he makes, he  
23       says:

24                   "Do not employ strip cutting unless  
25       moderate numbers of recent cones with

1                   viable seed are still present."

2                   You would agree with that?

3                   A. Yes.

4                   Q. That was Jeglum in 1987. Mr. Marek,  
5 I would like you to look at what Jeglum said in 1989.  
6 Would you go back to Tab 26 of the black binder,  
7 please.

8                   MR. FREIDIN: Sorry, which tab are you  
9 looking at?

10                  MS. CRONK: Tab 26.

11                  THE WITNESS: Is that the --

12                  MS. CRONK: Q. That's the 1989 article.

13                  A. Alternate Strip Clearcutting -- I'm  
14 sorry.

15                  Q. It's the 1989 article by Dr. Jeglum  
16 entitled: Alternate Strip Clearcutting to Regenerate  
17 Black Spruce, Why Aren't We Using It More.

18                  A. Correct.

19                  Q. All right. Would you go to page 12,  
20 if you would, please. I direct your attention, Mr.  
21 Marek, to the first full paragraph on this page where  
22 Dr. Jeglum says the following -- and to be clear, he is  
23 talking in this article, obviously by the title and the  
24 portions we have looked at earlier, about the increased  
25 - use of alternate strip cutting.

1                   A. Collect.

2                   Q. And he says:

3                   "With regard to regeneration, foresters  
4                   may still be concerned about the  
5                   probability of success in obtaining  
6                   adequate regeneration, that the natural  
7                   seedlings take much longer, take much  
8                   longer to get established and have slower  
9                   early growth rates in comparison with  
10                  planted stock, and that the spacing of  
11                  individuals in the naturally regenerated  
12                  stands may be too sparse, too dense or  
13                  too aggregated. If one regards black  
14                  spruce as a pulpwood species, dense  
15                  spacing is probably not a major concern."

16                  Now, stopping there for a moment, would  
17                  you agree, Mr. Marek, that Dr. Jeglum is raise a number  
18                  of regeneration oriented issues that may be of concern,  
19                  he says, to foresters with respect to the use of strip  
20                  cutting as a modified harvesting technique?

21                  A. This is a concern which is not  
22                  surprising to me and it's validity is questioned by me.

23                  Q. Well, you disagree with the number of  
24                  these suggestions as you've indicated to Mr. Martel  
25                  earlier.

1                   A. Correct.

2                   Q.... And to me, but it is clear that Dr.  
3 Jeglum at least is identifying them as being concerns  
4 to foresters about the method?

5                   A. Dr. Jeglum express in past and  
6 present conditions, Dr. Jeglum is dealing with opinion  
7 of foresters who probably were not as successful as I  
8 was, Dr. Jeglum is concerned about some of these  
9 things. It not become concern to me, Madam, for quite  
10 a period of time.

11                  Q. No, I quite understand. And then  
12 reading on the same page Dr. Jeglum raises some other  
13 concerns. I would ask you to look at the next  
14 paragraph.

15                  A. Right.

16                  Q. He says:

17                  "With regard to planning..."

18                  A. "With regard to planning...", okay.

19                  Q. "...foresters may still worry about  
20 the extra work in photointerpretation,  
21 planning and laying out roads and  
22 sidelines, problems with scheduling  
23 harvesting in relation to mill  
24 requirements, and problems with returning  
25 to areas for the final harvest cuts;

1                   however, the additional planning may in  
2                   fact provide some advantages by  
3                   identifying opportunities for modified  
4                   harvest and by better integration of the  
5                   harvesting and regeneration efforts to  
6                   achieve the most economical system."

7                   Now, stopping there, Mr. Marek. First of  
8                   all, Dr. Jeglum is urging in this article an increased  
9                   use of strip cutting, that's clear; isn't it, generally  
10                  that's what he's urging in the article?

11                  A. That is theme of the speech.

12                  Q. Exactly. But nonetheless, he is  
13                  identifying issues which are of concern to foresters  
14                  about a broader use of the technique and one of those  
15                  that he's identified is the one that you mentioned to  
16                  the Board and, that is, that there's an increased level  
17                  of planning and extra work in photointerpretation  
18                  required to do this; correct?

19                  A. No. May I leave --

20                  Q. Is that not correct?

21                  A. No, no, because it contradict  
22                  statement by Morrow who is employee of Domtar.

23                  Q. We'll come to Morrow in a minute,  
24                  we've got the Morrow article. I'm talking about what  
25                  Dr. Jeglum has done here, Mr. Marek.

1                   A. Okay.

2                   Q. And I am saying he's raising as a  
3 concern about the increased use of this technique the  
4 increased level of planning and extra work in  
5 photointerpretation, planning and laying out of roads  
6 and sidelines that's required. That's a concern he's  
7 identified; clearly, clearly?

8                   A. As far as Mr. Jeglum, he speaks for  
9 himself.

10                  Q. But didn't you also specifically tell  
11 Mr. Martel -- I thought you agreed with that  
12 proposition.

13                  Didn't you specifically tell Mr. Martel  
14 that there was an extra effort to be made in this kind  
15 of cutting proposal and that what was involved -- well,  
16 in fairness to you, what you said was at 45,815:

17                  "There was an extra effort to be made in  
18 this kind of cutting because, you know,  
19 in the clearcutting you just go and say,  
20 Okay, this is going to be clearcut,  
21 lay out the road usually and then you  
22 manage from there on."

23                  In this case you have to lay out this  
24 pattern, you have to give something to the  
25 consideration of the whole road and landings site, you

1 have to consider extra planning because you are going  
2 to require extra roads because you are harvesting half  
3 of the available volume. So several of them have to be  
4 involved in the planning process?

5 A. Yes.

6 Q. I didn't think there is an area of  
7 disagreement there?

8 A. There is no disagreement.

9 Q. That's a concern?

10 A. This concern can be expressed in many  
11 ways. If you look stripping cutting as a negative kind  
12 of thing -- I mean concern is something we are all  
13 concerned what we're going to do first and how good we  
14 are going to do things. I just cannot see that there  
15 is a great -- concerns are by people who don't like  
16 strip cutting.

17 Q. All I am suggesting to you, sir, is  
18 that that it is purely an issue of economics, that  
19 there are some practical and silvicultural based issues  
20 that scientists in the area, researching in the area  
21 have raised and this is but one of them?

22 A. That's right. That's one of them,  
23 but still the theme is why don't we strip cut more. So  
24 bearing that in mind...

25 Q. And Dr. Jeglum also raises in the

1 same passage the access issue that you identified  
2 earlier; that is, problems with returning to area for  
3 the final harvest cuts?

4 A. Correct.

5 Q. Could I ask you to go to page 9 of  
6 the same article, please. Under the section on  
7 planning and implementation at page 9, do you see that?

8 A. That's right.

9 Q. The first two sentences, and this I  
10 suggest is simply confirmation of what we are already  
11 looked at. Mr. Jeglum suggests that:

12 "Strip cutting will require more planning  
13 and scheduling than clearcutting..." and  
14 he refers to Morrow and we will come to the Morrow  
15 article.

16 A. Right.

17 Q. And Dr. Jeglum further indicates  
18 that:

19 "More detailed air photointerpretation is  
20 required to lay in the road system..."  
21 and he goes on to talk about field checks, et cetera;  
22 correct?

23 A. Correct.

24 Q. All right. Could I ask you then to  
25 go to the next article in the series, the Wood article

1 at Tab 20, if you would, please.

2 A. 20?

3 Q. Yes, Tab 20.

4 A. Yes.

5 Q. This whole article by James Wood and  
6 Richard Raper specifically addresses the issue of  
7 regeneration options for the leave strips?

8 A. That in Nipigon symposium.

9 Q. Yes, exactly. It specifically  
10 addresses the advantages and disadvantages of various  
11 regeneration approaches or techniques to try to achieve  
12 appropriate regeneration on the leave strips, that's  
13 whether they are second or third coupe strips; correct?

14 A. Yes, that's right.

15 Q. All right. Could I ask you to go to  
16 page 400 -- the first page, page 446. Do you see where  
17 it says Introduction under the abstract. The  
18 introductory paragraph, it says Introduction?

19 A. Introduction, yeah.

20 Q. The authors indicate factors:

21 "Abiotic, biotic and climatic affecting  
22 natural regeneration of black spruce in  
23 first cut strips in the shallow soil  
24 upland black spruce site type have been  
25 well documented by Jeglum..." and they

1 refer to a number of articles?

2 A. Yes.

3 Q. Then they go on to say:

4 "However, in the two-cut system of strip  
5 clearcutting there is little information  
6 on the regeneration of leave strips  
7 subsequent to the second cut. Peacock  
8 (1975) identified this deficiency as one  
9 of the problems that must be overcome  
10 prior to wide spread acceptance of the  
11 alternate strip cutting system."

12 Now, do you agree, Mr. Marek, that there  
13 is little information documented in the scientific  
14 literature on the regeneration of leave strips  
15 subsequent to the second cut?

16 A. Madam, we have discussed this half an  
17 hour ago, hour ago where I stated, and please look at  
18 the transcript, that my problem is to identify some of  
19 these problems because "we haven't got enough  
20 scientific documentation" and whatever documentation  
21 has been done has not been on the long-term.

22 I have recommended that the black spruce  
23 group should have been continued to find this  
24 information, but it was curtailed, so we are now  
25 talking about difficulties to reconciling some of these

1       future problems or problems we have right now by lack  
2       of information we have.

3                     Q. Thank you. Then the authors in Raper  
4       go on to discuss in some detail the advantages and  
5       disadvantages of a variety of options, regeneration  
6       options, and that's what the balance of the article is  
7       concerned with? It talks about regeneration options--

8                     A. Okay.

9                     Q. --is that right? Is it fair to say  
10      that no one option is identified as a proposed uniform  
11      solution to the issue of achieving regeneration on the  
12      second and third leave cuts?

13                  A. Madam Chairman, I have discussed  
14      this.

15                  Q. I'm talking, sir, now specifically  
16      about what these authors say in this paper and I am  
17      asking you to confirm if you can for me that although  
18      they discuss a number of options --

19                  A. Yes, they discuss it.

20                  Q. Please listen to my question, Mr.  
21      Marek, and feel free to answer it.

22                  A. Yeah, they discuss it.

23                  Q. The question is this: Although they  
24      discuss a number of options in some detail, they do not  
25      come forward with one uniform option as a proposed

1 solution to achieving appropriate regeneration on leave  
2 strips. They didn't do that; is that correct?

3 If you don't know, that's fine, sir.

4 A. I just want to put in the proper  
5 context in forestry. It's all right to talk about  
6 this.

7 Would you repeat it again, please?

8 Q. Yes. I'm suggesting to you that they  
9 looked at a number of regeneration options, for  
10 example, preservation of advanced growth?

11 A. Right.

12 Q. Seed tree methods, direct seeding,  
13 planting. They discuss a large number of them.

14 A. That's right.

15 Q. At the end of the article they do not  
16 identify one uniform solution to solve the issue of  
17 achieving regeneration on leave strips?

18 A. Because there is not such a thing.

19 Q. Thank you. And then over at page  
20 448, I would direct your attention to the discussion  
21 under Planting which is in the right-hand column. Do  
22 you see that?

23 A. Planting, correct.

24 Q. I would direct your attention to the  
25 first paragraph in which the authors indicate:

1                 "If fully stocked leave strips are  
2                 desired, planting is the surest method of  
3                 achieving this goal. To reduce  
4                 regeneration costs, one should restrict  
5                 planting to sites offering the highest  
6                 potential return or the greatest  
7                 potential cost savings."

8                 Now, just dealing with that. What the  
9                 authors are indicating is that if the objective is to  
10                 achieve fully stocked leave strips, planting is the  
11                 most certain method of achieving that. Do you  
12                 acknowledge that?

13                 A. Strictly subjective opinion of  
14                 writers of this article.

15                 Q. With which you agree or disagree?

16                 A. I disagree. Planting is one of the  
17                 options that I add to my comments. One of the options.

18                 Q. I suppose one of the points that  
19                 fairly can be made, Mr. Marek, about the articles that  
20                 we have looked at so far is that they establish that  
21                 the merits of broad use of strip cutting is not purely  
22                 an economics cost issue, that there are other matters  
23                 that have to be considered as well?

24                 A. There are other matters, that's  
25                 correct.

1                   Q. Then dealing specifically with the  
2 cost issue which you identified for the Board, could I  
3 ask you to go to the next article, please, that is  
4 by --

5                   A. Is that 21?

6                   Q. The next one I would like you to go  
7 to is at Tab 23 and it's by Johnson and Smyth?

8                   A. That's right.

9                   Q. This article deals specifically with  
10 the issue of increased harvesting costs and what the  
11 authors describe as renewal savings from strip cutting;  
12 is that correct?

13                  A. "Additional harvesting cost  
14 attributed to strip cutting..."

15                  Correct.

16                  Q. It's quite clear from the article  
17 that alternate strip cutting results in higher  
18 harvesting costs. Let's deal with that for the moment.

19                  Just on the harvesting side it, it is  
20 quite clear it results in higher harvesting costs?

21                  A. Yes, that has been identified  
22 previously, Madam.

23                  Q. Yes. Then what the authors also take  
24 into account is what the potential is for renewal cost  
25 savings and then they look at the net situation?

1                   A. Correct.

2                   Q. All right. Could I ask you to go  
3                   first, if you would, to -- we can start at the first  
4                   page, page 59 in the right-hand column under the  
5                   heading Additional Harvesting Costs Attributable to  
6                   Strip Cutting. Do you see that?

7                   A. Additional Harvesting Costs  
8                   Attributed to Strip Cutting, correct.

9                   Q. The authors indicate in the first  
10                  sentence with reference to the work done, earlier work  
11                  done by Ketcheson that:

12                  "Alternate strip cutting results in  
13                  higher harvesting costs than conventional  
14                  clearcutting."

15                  They go on to talk about the various  
16                  analyses that Ketcheson did, and then they indicate  
17                  that:

18                  "The analysis in their study..." Just so  
19                  that the Board is clear as to what the figures mean,  
20                  "...used all costs in constant 1985  
21                  dollars."

22                  Correct?

23                  A. That's what they say.

24                  Q. All right. Then they identified the  
25                  various sources of increased harvesting costs and you

1 outline some of these in your evidence to the Board?

2 A. Mm-hmm.

3 Q. It begins in the last sentence on the  
4 page in the right-hand column:

5 "The following activities were identified  
6 as potential sources of harvesting costs  
7 over and above those associated with  
8 clearcutting."

9 A. Right.

10 Q. Then continuing on to the next page,  
11 they list six factors: planning, layout and  
12 supervision, in-strip effects, roadside processing,  
13 movement of equipment, road construction and  
14 maintenance, losses to blowdown.

15 Now, stopping there. Do you agree that  
16 all of those factors are sources, Mr. Marek, of  
17 potential incremental harvesting costs about use of the  
18 strip cutting method?

19 A. They may or may not be.

20 Q. I said potential. They are potential  
21 sources?

22 A. They are potential, yes.

23 Q. I don't propose to go through this  
24 article in great detail, Mr. Marek, but perhaps we  
25 could take a quick look at some of the items identified

1 by the authors just on planning, layout and  
2 supervision.

3 Sorry, sir, I think you are going to have  
4 to have the actual article in front of you to respond  
5 to these questions.

6 A. Okay.

7 Q. Under planning, layout and  
8 supervision, the left-hand column, that's the first  
9 source of incremental cost that the author identifies.  
10 They suggest that on their analysis using their  
11 assumptions a cost of \$42.50 per hectare was used by  
12 them to estimate additional planning, layout and  
13 supervision costs.

14 That's what they did in the planning,  
15 layout and supervision side?

16 A. Madam, may I make a comment on this  
17 report. With all respect to Mr. Ketcheson, with all  
18 respect to all people working who were working on this  
19 study, and I am one of them, this report is obsolete.

20 Q. Is which?

21 A. Obsolete.

22 Q. Obsolete?

23 A. Obsolete.

24 Q. Why do you say that, sir?

25 A. Why I'm saying is because the

1 technology progress since 1984 and 1985, and this was  
2 static in such a way that we have a completely new  
3 technologies moving into the forest. We have a new  
4 condition created by new technology and I'm talking  
5 about adaption of techniques and use of equipment which  
6 didn't exist at that time.

7 When this report was made, the technology  
8 of harvesting was completely different as it is right  
9 now.

10 Q. Let's just deal with that. The Board  
11 has heard, Mr. Marek, about a number of studies done by  
12 Ketcheson on the cost of strip cutting, one of which  
13 was a 1982 article was produced in the source book for  
14 this panel by Forests for Tomorrow. You know that  
15 Ketcheson did early work in this area?

16 A. I'm fully aware of it, yes.

17 Q. I thought so. Then we have published  
18 in 1988 this study by Johnson and Smyth which you say  
19 is obsolete?

20 A. They are all obsolete because  
21 technology progress so far with full-tree harvesting  
22 and the methodology of logging that indeed you have to  
23 have a current study, a new study in order to  
24 substantiate some of these data which are being  
25 presented.

1                   Q. Accepting that, Mr. Marek, are you  
2 aware of any study, because I confess to you this is  
3 the most recent cost analysis of the incremental  
4 harvesting and renewal saving/cost attributed to strip  
5 cutting of which I am aware in the published forum?

6                   Are you aware of any more recent studies?

7                   A. No.

8                   Q. Thank you. Now, we have to deal with  
9 what we have for the moment, recognizing the  
10 desirability for up-to-date information?

11                  A. In comparison perhaps with today  
12 technology and technique used by the Industry, yes.

13                  Q. I understand. Then on page 60 where  
14 we were under planning, layout and supervision in the  
15 left-hand column.

16                  A. What page was it again?

17                  Q. 60.

18                  A. Page 60.

19                  Q. The left-hand column under planning,  
20 layout and supervision, you will see the authors  
21 describe what they did with respect to costing that  
22 item, and I just want to identify quickly for the Board  
23 the various items that were actually costed here to try  
24 to get a handle on what this really means in terms of  
25 incremental harvesting costs.

1                   For planning, layout and supervision, am  
2 I right that a cost of \$42.50 per hectare was used to  
3 estimate additional planning, layout and supervision  
4 costs?

5                   A. At that time that may be the figure.

6                   Q. Well, is it not the figure at that  
7 time? Isn't that what they say they used?

8                   A. That's what Mr. Ketcheson said in  
9 1984.

10                  Q. Thank you. Then for in-strip  
11 effect -- in-strip effects, let's talk about that for a  
12 minute.

13                  My understanding of that, and I would ask  
14 you to help me to see if I am right in this, what they  
15 mean by the term in-strip effects is whether on-site  
16 productivity is affected by strip cutting; what  
17 actually happens in the site in terms of productivity.  
18 Is that a correct understanding?

19                  A. That would be probably  
20 interpretation, yes.

21                  Q. I'm sorry, it would be an appropriate  
22 interpretation?

23                  A. It would be proper interpretation at  
24 that time for these strips.

25                  Q. Thank you. With respect to that

1 item, the authors indicate that they assumed that  
2 blowdown in the residual strip does not, does not  
3 significantly interfere with the productivity of  
4 equipment. That's an assumption they make?

5 A. Assumption.

6 Q. Then under Roadside Processing, again  
7 there is a discussion. In each case, to assist you,  
8 Mr. Marek, I am looking at the last sentence of the  
9 paragraph dealing with these items.

10 A. Okay.

11 Q. Under Roadside Processing, they  
12 indicate that a figure of \$9.01 per hectare was used to  
13 cover additional roadside processing costs. That's the  
14 number they use for that item?

15 A. That's right.

16 Q. Then for movement of equipment, and  
17 they talk about that, they indicate that:

18 "Additional equipment overhead charges,  
19 which include such things as garage cost  
20 and the like, attributable to the strip  
21 cutting harvesting method were estimated  
22 at \$13.31 per hectare."

23 That's what they used?

24 A. According to Ketcheson?

25 Q. No, according to these authors

1           Johnson, Smyth.

2                   A. That's the problem. Ketcheson  
3        doesn't even deal with this. Ketcheson felt in his  
4        report that that's a negligible cost which shouldn't  
5        account for higher increase of the cost. These fellows  
6        are now coming with new cost.

7                   It is interesting I would say.

8                   Q. Yes, it is interesting. What's also  
9        interesting, with respect, is what they said about it  
10       and I am asking you to confirm on that particular item,  
11       movement of equipment, these authors did take it into  
12       account in doing their costing analysis and that they  
13       did use the figure of \$13.31 per hectare as their  
14       estimate?

15                  A. How can I confirm something they  
16       wrote? I didn't write it, Madam. You are questioning  
17       my opinion...

18                  Q. Let's go to the --

19                  MADAM CHAIR: Just for the Board to be  
20       clear, that is Ketcheson's figure?

21                  MS. CRONK: Exactly.

22                  MADAM CHAIR: That was Ketcheson's 1979  
23       estimate.

24                  THE WITNESS: That's right, and  
25       technology completely changed since then.

1 MS. CRONK: Thank you, Madam Chair.

2 Q. With respect to all of these items,  
3 the next one is road construction and maintenance, Mr.  
4 Marek.

5 A. Right.

6 Q. I would direct your attention to the  
7 first paragraph under this discussion. The authors  
8 indicate:

9 "Ketcheson (1979) found that the most  
10 important elements of the strip cutting  
11 system that contribute to additional  
12 harvesting cost are road construction  
13 and maintenance. Standards of secondary  
14 and tertiary access roads do not differ  
15 from those for clearcut operations, but  
16 twice as much area as in the clearcutting  
17 operation must be accessed initially to  
18 obtain the same volume of timber."

19 Now, stopping there for a moment. Do you  
20 agree with that, Mr. Marek?

21 A. The situation changed. Now, we have  
22 road subsidy by the government and that time there was  
23 none. When Ketcheson made these things, the government  
24 didn't subsidize road building. So you have of course  
25 a crude cost.

1                   Q. Leaving aside the issue of who pays  
2                   for it and not accepting your understanding of those  
3                   facts as correct, leaving side the issue as to who pays  
4                   for it --

5                   A. It's the cost, Madam.

6                   Q. I understand that, sir. What I am  
7                   directing your attention to is do you agree that twice  
8                   as much area in the clearcutting operation must be  
9                   accessed initially to obtain the same volume of timber?

10                  A. Correct.

11                  Q. Thank you. Do you also agree that  
12                  regardless of who pays for it, the most important  
13                  costing element for the strip cutting system is road  
14                  construction and maintenance?

15                  A. Yes, you have to build extra roads,  
16                  you have to maintain extra roads -- area to access the  
17                  areas.

18                  Q. Do you also agree, as these authors  
19                  suggest, that the capital charges associated with road  
20                  construction vary directly with the length of leave  
21                  period?

22                  A. They do.

23                  Q. And they further suggest  
24                  deterioration of tertiary haul roads increases with  
25                  leave period? That's based on Ketcheson's work. Do

1 you agree?

2 A. I agree.

3 Q. All right. And then they go on to  
4 indicate how they set about estimating those  
5 incremental costs by leave period, with different costs  
6 for different estimated leave periods?

7 A. Right.

8 A. If we look at Figure 1, we see there  
9 do, we not, the authors costing estimates set out in  
10 graph form for these various items based on either a  
11 three-year or five-year or ten-year leave period; is  
12 that correct?

13 A. That's correct.

14 Q. All right. And then with respect to  
15 the final costing item, they identify losses to  
16 blowdown. On the right-hand side of the page in the  
17 last paragraph, the authors indicate:

18 "There is a loss of merchantable volume  
19 caused by blowdown in the residual strip  
20 which, under a clearcut system, could  
21 have been retrieved and utilized. This  
22 loss to blowdown in the residual strip is  
23 therefore a major source of indirect  
24 cost."

25 Now, stopping there for a moment. Do you

1 agree with that?

2                   A. No, I don't because in the natural --  
3 pardon me, under normal operations the blowdown in the  
4 clearcut stay there too because lots of companies do  
5 not take blowdown for reason of -- they have many  
6 reasons for that.

7                   So I think this statement is not accurate  
8 to the comparison; in other words, if you have a  
9 blowdown in strips, you are going to have also blowdown  
10 in clearcut areas which are not being utilized for  
11 harvesting. They try in some cases, in many cases they  
12 just bypass this blowdown and leave it there.

13                  Q. We know, because you discussed it  
14 with Ms. Swenarchuk, that Mr. Flemming and  
15 Crossfield did a study on this specific issue,  
16 mortality in blowdown. Do you recall that?

17                  A. Correct.

18                  Q. All right. As a general matter, is  
19 it then your evidence to the Board that blowdown is not  
20 an additive problem of strip cutting as compared to  
21 clearcutting. You think it is the same issue?

22                  A. As discussed, Madam, the blowdown is  
23 directly connected to the efficiency, to the efficiency  
24 of the project itself; in other words, if you have  
25 efficiency done vis-a-vis the proper layout, road

1 consideration to the effect of edges or edge effect.

2 In this case it's a very, very gray area  
3 what we are talking about, if there is substantial  
4 blowdown or if there are no blowdown or...

5 Q. Do you acknowledge, Mr. Marek, that  
6 the issue of loss of trees from the edges of the leave  
7 strips is a matter that's been identified in the  
8 scientific literature as a concern with respect to  
9 strip cutting?

10 A. Relatively.

11 Q. Yes. Do you acknowledge that some of  
12 the published researchers who specifically looked at  
13 this issue; that is, blowdown and incidence of  
14 mortality in the leave strips, have identified it as a  
15 concern with respect to strip cutting?

16 A. In the area where improper treatment  
17 was taken in the first place.

18 Q. I'm sorry, I didn't hear you?

19 A. In the areas or in the places where  
20 perhaps inappropriate technique was used to modify the  
21 cuts.

22 Q. All right. I just want to make sure  
23 if I understand that there really is or not a  
24 disagreement here.

25 I understand you to be saying to the

1       Board that there are harvesting techniques that can be  
2       used to minimize this problem?

3                   A. Correct.

4                   Q. That does not mean the problem  
5       doesn't exist, you would agree?

6                   A. Oh, it may be tremendous problem.

7                   Q. It is more of a potential problem  
8       with strip cutting than it is with clearcutting; isn't  
9       that so?

10                  A. Madam, we go back to same thing. If  
11       you have a blowdown in the clearcut the company  
12       probably going to bypass it, too. So it's proper  
13       harvesting and properly utilization problem we have  
14       here.

15                  Q. Do you disagree or agree that it is  
16       more of a problem with strip cutting than with  
17       clearcutting?

18                  A. It could be, could be.

19                  Q. More of a problem?

20                  A. Yes.

21                  Q. Thank you. Then the authors indicate  
22       in the same paragraph, Mr. Marek, second sentence:

23                  "If we assume that the net mortality  
24       attributable to the strip cutting system  
25       is left on the site and that in-strip

1                   productivity is not affected by this  
2                   debris, then the cost of blowdown in the  
3                   residual strips can be estimated."

4                   Do you see that? Do you just see  
5                   physically where it is on the page, first of all?

6                   Do you understand where the discussion  
7                   is? It is the last paragraph on the right-hand column  
8                   at page 60.

9                   Last paragraph, right-hand column.

10                  A. Yes, here I saw it.

11                  Q. Thank you. Am I correct that what  
12                  the authors are saying is once again they have assumed  
13                  that on site in-strip productivity is not affected by  
14                  the logging debris left behind under the strip cutting  
15                  system? That's an assumption they are making?

16                  A. Remember that picture I drew of  
17                  effect of blowdown, the domino effect of blowdown?

18                  Q. Yes.

19                  A. I like to present that case.

20                  Q. So that we understand visually what  
21                  happens, am I correct that what these analysts did was  
22                  assume that it wouldn't affect the productivity of  
23                  equipment and men on site in getting the wood out?  
24                  That's an assumption made so that they could do their  
25                  costing analysis?

1                   A. Perhaps.

2                   Q. Well, could I ask you to -- I want to  
3 make sure I am reading this correctly, Mr. Marek. You  
4 are more familiar with these than I. Is that an  
5 assumption they make?

6                   A. It's assumption under certain  
7 conditions. Under certain conditions.

8                   Q. All right. Then they take a look at  
9 the renewal costs of strip cutting over on page 61  
10 relative to those of clearcutting?

11                  A. 51 or 61?

12                  Q. I beg your pardon. 61, you are quite  
13 right, on the next page.

14                  A. "Renewal cost of strip cutting..."

15                  Q. Yes. They set out estimates of the  
16 net savings or costs in Figure 4 over on page 63.  
17 Could I ask you to go there, please.

18                  Figure 4 at the top of the page sets out  
19 their comparative conclusions as to net savings, net  
20 costs, et cetera, attributable to the strip cutting  
21 system and I would ask you to look at the conclusions  
22 section in the left-hand column on page 63.

23                  A. Yes.

24                  Q. Do you have that?

25                  A. Mm-hmm.

1                   Q. They indicate first that strip  
2 cutting increases harvesting costs; secondly, that  
3 strip cutting is less costly than clearcutting,  
4 followed by planting, but more costly than clearcutting  
5 followed by seeding; thirdly, that increasing the leave  
6 period results in higher harvesting costs, leave  
7 periods of up to 10 years are acceptable but not  
8 desirable; and, finally, doubling the strip length, in  
9 this case from 183 to 336 -- I'm sorry, from 183 to 366  
10 metres does not significantly affect harvesting costs.

11                  So the conclusions of their study tell us  
12 the following. First of all, that strip cutting  
13 increases harvesting costs? That appear to be a given;  
14 correct?

15                  A. Yes.

16                  Q. That's the first. Then, secondly,  
17 their conclusions based on their study is that in  
18 assessing whether strip cutting on a net basis is less  
19 or more costly than clearcutting you have to look at  
20 what the treatment after clearcutting is, and what they  
21 say is that if you clearcut and plant, then strip  
22 cutting is cheaper?

23                  A. Yes.

24                  Q. But if clearcut and seed it is not?  
25 That's their finding?

1                   A. Very controversial subject, Madam.

2                   Q. That's what they found?

3                   A. That's what they found. Very  
4                   controversial.

5                   Q. They talk about and looked at the  
6                   length of the leave period and the length of the leave  
7                   strips to determine if they had any influence in the  
8                   economic sense on the cost position?

9                   A. Right.

10                  Q. They suggested that increasing the  
11                  leave period results in higher harvesting costs?

12                  Forgive me, as a lay person I would have  
13                  thought that was common sense because the longer you  
14                  wait to go back in the greater the potential to  
15                  competition problems, et cetera, the greater access  
16                  problems potentially, et cetera.

17                  A. That is correct.

18                  Q. In any event, dealing with that  
19                  suggestion, increasing the leave period, do you  
20                  acknowledge or do you agree or disagree with the  
21                  suggestion that the longer you wait to go back in the  
22                  higher your costs?

23                  A. As compared to what, higher the  
24                  costs? The total renewal of management or is that just  
25                  for the logging itself represented by present

1 techniques?

2 Q. It appears we are talking about  
3 harvesting costs only.

4 A. That's right, harvesting costs only.

5 Q. On that basis do you agree?

6 A. Yeah, that's obvious.

7 MR. MARTEL: Could I back up for a  
8 moment, Ms. Cronk, please.

9 MS. CRONK: Yes.

10 MR. MARTEL: I can't recall, Mr. Marek,  
11 seeding I thought was done primary were jack pine?

12 THE WITNESS: That's right.

13 MR. MARTEL: How much seeding, to your  
14 knowledge, is done following clearcut in black spruce?

15 Maybe my recollection over these last 30  
16 months is getting hazy, but I didn't think there was  
17 much done in the province, in the area of the  
18 undertaking.

19 THE WITNESS: Is that directed to me?

20 MR. MARTEL: Yes.

21 THE WITNESS: Yes, very little.

22 Practically none.

23 MS. CRONK: Q. It is true, is it not,  
24 Mr. Marek, that there are direct seeding efforts with  
25 black spruce ongoing in the Clay Belt?

1                   A. On an experimental area I would say.

2                   Q. In an operational context?

3                   A. Well, in an operation context, I will  
4 have to see the results. I have seen some of the first  
5 year, but again you cannot judge first year or two  
6 years after seeding what the results really are.

7                   MR. MARTEL: I guess that's what worries  
8 me. I don't know how one makes a comparison if that's  
9 done. If there are some statistics, it might be nice  
10 to see them because if we are not doing as much of it,  
11 it's difficult to come to that conclusion.

12                  I'm not saying these people are right,  
13 but it would be nice to see something with which they  
14 make that conclusion. I just find it difficult.

15                  MS. CRONK: Perhaps I can deal by way of  
16 questions to Mr. Marek with the seeding issue.

17                  MR. MARTEL: All right.

18                  MS. CRONK: I had intended to do that,  
19 but to deal with one aspect of it right now, Mr.  
20 Martel.

21                  Q. Mr. Marek, am I right first, and  
22 please tell me if you don't know, are you familiar with  
23 the operational direct seeding projects ongoing in the  
24 Clay Belt today with respect to black spruce? Are you  
25 familiar with it?

1                   A. I have inspected some seeding area -  
2 as a matter of fact, it's on the map with my report -  
3 in the Clay Belt and results were I think -- when I  
4 looked at it it was 1987.

5                   It was seeded previous, so it should have  
6 been 1986. I have seen that last year again. And I  
7 cannot make up mind if it is going to be successful  
8 because we are dealing with period of water  
9 stabilization and this problem of sphagnum competition  
10 where lots of these little seedlings which germinate  
11 are swallowed by sphagnum.

12                  So I think that to deal with it  
13 realistically and more common sense wise, we have to  
14 have at least a five-year study on these or five  
15 year -- so that's my answer, Madam.

16                  Q. Leaving aside whether it has been  
17 successful or not in the further study that should be  
18 done, I take it from what you have said that you are  
19 not in a position to help the Board as to the extent of  
20 black spruce direct seeding efforts in the Clay Belt?

21                  A. No. And its success, no, I cannot.

22                  Q. Or the extent of it, how much of it  
23 is going on. That's not your area?

24                  A. That's right.

25                  Q. Secondly, am I right that in respect

1 of your own strip cuts on the Lake Nipigon FMA area,  
2 there was aerial seeding conducted there in the 1970's  
3 on some portions of the strip cuts of black spruce and  
4 jack pine?

5 A. That's correct.

6 Q. Thank you. Just just to conclude  
7 this before lunch, with your indulgence, Madam Chair,  
8 for just a few more minutes, if I might.

9 MADAM CHAIR: Go ahead, Ms. Cronk.

10 MS. CRONK: Thank you.

11 Q. Could I ask you you to go to page 63,  
12 Mr. Marek, the same article, the left-hand column, top  
13 of the page.

14 A. "An assumption..."

15 Q. Yes. Now, I drew your attention to  
16 various passages of this article to the assumptions  
17 made by the authors that there would be no loss of  
18 in-site productivity from factors such as blowdown and  
19 specifically from blowdown and the movement of man,  
20 machinery, equipment and the like.

21 What the authors indicate in this  
22 paragraph is:

23 "An assumption underlying the analysis  
24 is that strip cutting will not result in  
25 .. any reduction in extraction productivity.

1                   An increase in extraction costs of only  
2                   \$6 per cubic metre would negate the  
3                   savings of even the best strip cutting  
4                   and renewal options examined in the  
5                   analysis. Managers who believe that  
6                   extraction productivity will suffer  
7                   during strip cutting would be wise not to  
8                   employ this harvesting method."

9                   Now, stopping there, Mr. Marek. Do I  
10                  correctly understand that to mean that there is a \$6.00  
11                  per cubic metre swing in the numbers in this analysis  
12                  such that if there is going to be in any particular  
13                  site location a decrease in in-site extraction  
14                  productivity the cost of strip cutting could be very  
15                  unfavourable? That is what they are saying?

16                  A. They may say what they want.

17                  Q. My understanding is that's what they  
18                  are saying?

19                  A. Why should I agree or disagree.

20                  Q. I haven't come to that, but I will.

21                  The authors are saying the single factor is in-site  
22                  extraction productivity cost and there is only a \$6 per  
23                  cubic metre differential and that all the options are  
24                  going to be more costly on clearcut.

25                  That's what they have said?

1                   A. Good for them.

2                   Q. All right. Now, have you, sir, made  
3                   any study of what the consequences of reductions in  
4                   extraction productivity are from the use of strip  
5                   cutting? Have you done that?

6                   A. No, I didn't. This is not my field,  
7                   Madam, to extrapolate on the cost because I think there  
8                   will be other panels following mine which will be  
9                   dealing with the costs and so on.

10                  But I may draw to your attention one  
11                  thing, and one very important thing, the authors of  
12                  this analysis, I know both of them, and with due  
13                  respect to the professional know-how, they spent in the  
14                  area of strip cutting in researching it, only one was  
15                  there for two years on the unit, the other one - he's a  
16                  researcher - I cannot take such a study too seriously  
17                  because it deals with an extremely local condition  
18                  under certain condition, you may have completely  
19                  different results.

20                  Q. Mr. Marek, am I correct that in all  
21                  these authors examined 12 different types of renewal  
22                  combinations, renewal prescriptions to assess a net  
23                  savings cost, a basis for strip cutting versus  
24                  clearcutting?

25                  A. You can play with figures all the

1 time, Madam.

2 Q. I'm sorry, I'm not playing, sir, I'm  
3 trying to understand what the evidence before the Board  
4 is.

5 A. No, no. I cannot contradict these  
6 statement because it's statement by individuals, Madam,  
7 who --

8 Q. Thank you.

9 A. Thank you.

10 Q. Thank you. And you have not  
11 conducted a study of extraction productivity with  
12 respect to strip cutting?

13 A. I'm not economist.

14 Q. That's fine, sir, thank you. Can we  
15 agree at least on this --

16 A. That I'm not economist. Of course we  
17 agree right from beginning; didn't we?

18 Q. Can we agree also on this aspect, Mr.  
19 Marek.

20 A. What?

21 Q. That whether you take a comfort from  
22 this study or not, this study is, first of all, the  
23 most current that you're aware of and that I'm aware  
24 of?

25 A. Mm-hmm.

1 Q. That's a yes, that you're aware of?

2 It's the most current one you're aware of?

3 A. I read it, yeah.

4 Q. And secondly, it's suggests that the  
5 margin of cost differential between strip cutting and  
6 clearcutting is very much influenced by extraction  
7 productivity, and it can go either way depending on  
8 what happens to productivity actually on site?

9 A. Based on this study only.

10 Q. Yes.

11 A. Based on the fact that may be right  
12 present the other studies being done which going to  
13 contrary what has been said before.

14 See, matter of economics is a funny thing  
15 and I think that this is a study which does not deal  
16 with economy as we perceive at the moment where we are  
17 going to put total cost of regeneration, total removal  
18 and isolate only harvesting to certain areas only. And  
19 that is my conclusion. I can't say neither no neither  
20 yes to study like this.

21 Q. Yes. So that your clear, Mr. Marek,  
22 as to - to use Mr. Hanna's expression - where I'm  
23 coming from in these questions and what the Industry's  
24 position is, it's clear that strip cutting in certain  
25 situations is a viable and can be successful harvesting

1 approach; you'd agree obviously with that?

2 A. You already asked me this question,

3 Madam

4 Q. You agree. What I'm suggesting to  
5 you is, is that we cannot be sanguine about the cost  
6 implications of the use of the strip cutting method,  
7 certainly not on a broad scale, given the likes of most  
8 current information available to the Board; you'd agree  
9 with that?

10 A. Again, if you take the current  
11 information seriously and if you base all your  
12 deductions from it, then obviously you are right. I  
13 mean, you can bring me other information next two  
14 months and I will disagree or agree.

15 Q. We have to deal with the future when  
16 the future arrives, Mr. Marek.

17 A. I know, but what -- Madam Chair, what  
18 bothers me about this information that they haven't got  
19 a continuancy; in other words, you publish something,  
20 you state something and put your name to it and  
21 eventually it can be taken apart because it's so  
22 isolated.

23 We have to look at these problems in the  
24 total context in forest management and when you talk  
25 economics it's one thing, when you talk forest renewal

1 it's the other thing, and perhaps this kind of  
2 compartmentized approaches to forest management should  
3 stop and we should look at the total package.

4 MADAM CHAIR: Thank you, Mr. Marek.

5 MS. SWENARCHUK: Excuse me. May I  
6 clarify one matter before we adjourn for lunch?

7 MADAM CHAIR: Ms. Swenarchuk?

8 MS. SWENARCHUK: And that's just going  
9 back, Madam Chair, to your comment on the movement of  
10 equipment paragraph, and perhaps I'm reading it  
11 differently. I would just like to clarify how it looks  
12 to me just from reading the words.

13 This is on page 60, top of the right-hand  
14 column, and basically my reading of the paragraph is  
15 that the Ketcheson figure for garage cost was used,  
16 however, that the thirteen thirty-one per hectare  
17 includes additional cost of moving harvesting equipment  
18 to and from the site and of servicing this equipment,  
19 garage costs.

20 Perhaps it's just a question of ambiguity  
21 in the wording.

22 MS. CRONK: The way to resolve it is  
23 we'll just take a look at the Ketcheson articles and  
24 we'll will clarify it.

25 MADAM CHAIR: Okay, thank you.

1 MS. CRONK: Thank you.

2 MADAM CHAIR: Ms. Cronk, you are going to  
3 be obviously the rest of the day?

4 MS. CRONK: I will, Madam Chair.

5 MADAM CHAIR: And when are you going to  
6 be finished with the cross-examination?

7 MS. CRONK: I had hoped, Madam Chair, at  
8 the outset, you'll recall that at the scoping session I  
9 indicated that I expected that I would be a minimum -  
10 and I was careful to use the word minimum - two days.

11 I had hoped to be finished by tonight,  
12 that will not happen, and given the length of time it  
13 took me yesterday to cover areas I thought would go  
14 quite quickly, I will finish by the end of the day  
15 tomorrow, I hope early in the day tomorrow but it will  
16 not be tonight, and I doubt very much it will be before  
17 noon tomorrow.

18 MADAM CHAIR: All right. And to follow  
19 Ms. Cronk is the Ministry of the Environment?

20 MS. SEABORN: Yes, Madam Chair.

21 MADAM CHAIR: And how long will you be,  
22 Ms. Seaborn?

23 MS. SEABORN: My original estimate was a  
24 day, Madam Chair. I would suggest that that's still a  
25 realistic estimate. I certainly will not go longer

1 than a day and depending on the areas that Ms. Cronk  
2 has left to cover, I may be less than a day.

3 MADAM CHAIR: All right. Ms. Seaborn,  
4 you will be prepared to follow Ms. Cronk tomorrow if  
5 she should be finished her cross-examination?

6 MS. SEABORN: Yes, I will.

7 MADAM CHAIR: All right, fine.

8 We just have a suggestion, Mr. Marek --

9 THE WITNESS: Yes.

10 MADAM CHAIR: And that is, as Ms. Cronk  
11 takes you through various articles and so forth and  
12 asks you if this is what the author said, then  
13 certainly you can answer yes or no, the Board doesn't  
14 take that to mean that you agree with what's being said  
15 because we've had many days now of your evidence and we  
16 are pretty clear in our mind about what your position  
17 is, and I can tell that Ms. Swenarchuk is making notes  
18 with respect to re-examination where she knows there  
19 are areas that you wish to further elaborate an opinion  
20 to the Board, she's going to give you an opportunity to  
21 do that.

22 So when Ms. Cronk, unless she asks you  
23 specifically if you agree with that or not, I think we  
24 could get through this much more quickly if you  
25 answered yes or no to it, unless you are asked whether

1 you yourself agree with that or not, and the Board  
2 doesn't take an agreement with what the author is  
3 saying. Many times Ms. Cronk will say to you, is this  
4 what the authors says in the article.

5 THE WITNESS: Oh of course I said he said  
6 that.

7 MADAM CHAIR: And when you say yes, you  
8 don't have to elaborate any more for the Board.  
9 Because Ms. Cronk doesn't give you an opportunity to  
10 tell us whether you agree with it or not, Ms.  
11 Swenarchuk will.

12 THE WITNESS: Oh. Well, you see, I'm not  
13 aware of this.

14 MADAM CHAIR: I think that will be the  
15 case, and it would be just very fast to get through...

16 THE WITNESS: Of course, of course,  
17 because I cannot doubt what somebody says, it's written  
18 there and you can read --

19 MADAM CHAIR: That's right. And Board  
20 does not accept that you agree with it or not unless  
21 you are asked that.

22 THE WITNESS: Yeah, but why we go -- it  
23 puzzles me.

24 MS. CRONK: Thank you.

25 MADAM CHAIR: Ms. Cronk is simply getting

1       on the record evidence that she thinks will support her  
2       party's position, but the Board does not take it -- if  
3       you're asked whether this is what an author said, you  
4       can answer yes and we do not think you agree with that.  
5       If you're asked whether you agree with it, then please  
6       go into your explanation, but otherwise just answer yes  
7       or no.

8                     THE WITNESS: Of course in that case,  
9       Madam -- may I question one thing here and pardon me my  
10      curiosity in this case. If she presents me with a  
11      written report, I might as well not be here, I can say  
12      yes, yes, yes.

13                  MS. CRONK: If we're going do debate the  
14      merits of cross-examination, Mr. Marek, we're going to  
15      draw numbers.

16                  MS. SWENARCHUK: The other point, Mrs.  
17      Koven, is that--

18                  MADAM CHAIR: Ms. Swenarchuk?

19                  MS. SWENARCHUK: --you see, it may  
20      ultimately not save me time to go back in  
21      re-examination. If he puts his view of the matters on  
22      the record now, it may in fact save some time from  
23      coming back and identifying --

24                  MADAM CHAIR: Well, the problem is, Mr.  
25      Marek, the Board is fully aware that he doesn't agree

1 with much--

2 MS. CRONK: Exactly.

3 MADAM CHAIR: --of what's being said, but  
4 we are now repeating your argument over and over, and  
5 we know what it is.

6 THE WITNESS: That's right.

7 MADAM CHAIR: So just answer yes or no  
8 when it's black and white and it's on the page and  
9 you're asked if the author -- it seems like a  
10 cumbersome and silly thing to do --

11 THE WITNESS: It's like a game.

12 MADAM CHAIR: I guess it is, but that's  
13 what cross-examination is for and this evidence is  
14 going on the record in a certain way. But don't feel  
15 that you have to depend what the author is saying or  
16 disagree with it, unless you are asked to do that.

17 THE WITNESS: I see, okay.

18 MADAM CHAIR: So maybe this afternoon we  
19 can just speed it up a bit, and thank you.

20 MS. CRONK: I'm greatful very much, Madam  
21 Chair. Thank you.

22 MADAM CHAIR: We will be back in an hour  
23 and a half.

24 ---Luncheon recess taken at 12:10 p.m.

25 ---On resuming at 1:45 p.m.

1                   MADAM CHAIR: Please be seated.

2                   Ms. Cronk?

3                   MS. CRONK: Thank you, Madam Chair.

4                   Q. Mr. Marek, before we broke for lunch  
5                   we were discussing the Johnson and Smyth article which  
6                   appears at Tab 23, and just to clarify one point  
7                   concerning it, could I ask you to go, if you would  
8                   please, to page 61 of that article and in the  
9                   right-hand column under Renewal Options there's a  
10                  description of the various renewal options examined by  
11                  the analyst for the purpose of their costing analysis.

12                  And this relates, Mr. Martel, to the  
13                  questions before the luncheon break regarding seeding.

14                  Mr. Marek, it seems to me in reading the  
15                  description of the renewal options that seeding options  
16                  other than aerial seeding were considered; namely, spot  
17                  seeding with a certain type of equipment, the Bracke  
18                  badger, for both the clearcutting option and the  
19                  modified harvest or strip cutting option; is that  
20                  correct?

21                  A. Yes, you can use these techniques.

22                  Q. Yes. And the authors specifically  
23                  looked at spot seeding, mechanically achieved, in  
24                  addition to aerial seeding?

25                  A. Correct.

1                           Q. And if we go over to the next page,  
2 page 62, in the top right-hand corner we see an  
3 explanation again of the various renewal prescriptions  
4 that were considered, there's an explanation of the  
5 code in the legend, and it sets out in two different  
6 columns the various renewal options considered for  
7 clearcutting and the various renewal options for the  
8 cutting of the second or the leave strip on strip  
9 cutting.

10                          Do you see where I am, Mr. Marek, the top  
11 right-hand corner? Yes. And would you agree with me  
12 that spot seeding, as well as aerial seeding, are  
13 amongst the options outlined?

14                          A. Yeah, they are outlined in the  
15 report.

16                          Q. Yes. Thank you very much. Now, an  
17 issue that arose also before the break with respect to  
18 the element of costs associated with the movement of  
19 equipment and personnel was the issue of what Ketcheson  
20 in his earlier costing analyses had taken into account.

21                          MR. MARTEL: We are still having some  
22 difficulty.

23                          MS. CRONK: Sorry.

24                          MR. MARTEL: Because the question I  
25 raised pertained to black spruce and whether or not we

1 seed for black spruce. If I read this correctly,  
2 they're talking about aerial seeding for jack pine.  
3 And I was concerned about the comparison between black  
4 spruce being more costly if you plant as opposed to  
5 seed.

6 I simply couldn't get a handle on  
7 anything I had seen which showed that we could make  
8 that comparison because I haven't seen anything, that I  
9 can recall--

10 MS. CRONK: Yes.

11 MR. MARTEL: --with respect to the cost  
12 of or the use of black spruce for seeding, and I don't  
13 know how that comparison can be made unless I can see  
14 something that we are doing it and this is what it's  
15 costing, and I can't recall seeing any of that, Ms.  
16 Cronk.

17 MS. CRONK: I understand.

18 MR. MARTEL: And this talks only about  
19 spot seeding with jack pine.

20 MS. CRONK: That's right.

21 MR. MARTEL: And aerial seeding with jack  
22 pine, but I was asking about black spruce.

23 MS. CRONK: Yes, I see. All right. I  
24 thought there were two aspects to the issue you were  
25 raising and the first was the use of black spruce by

1 the seeding method.

2 MR. MARTEL: Yes.

3 MS. CRONK: And there are some materials  
4 available on that which, as a result of the noon hour,  
5 I'm having put together.

6 MR. MARTEL: All right, thank you.

7 MS. CRONK: And I will come to that. But  
8 I wanted ensure that there was no impression left of  
9 the article that only aerial seeding had been discussed  
10 with one species or another.

11 MR. MARTEL: Okay.

12 MS. CRONK: Q. The other issue that  
13 arose, Mr. Marek, had to do with the work of Ketcheson  
14 in costing strip cutting as compared to clearcutting  
15 and, in particular, the treatment in the Ketcheson work  
16 of the costs associated with the movement of equipment  
17 and the movement of personnel.

18 One of the Ketcheson articles that is now  
19 before the Board is found in your source book for Panel  
20 3.

21 A. That's correct.

22 MS. CRONK: It's a costing analysis  
23 dating, Madam Chair, from 1982 and I'm sorry, I didn't  
24 realize that we'd need this so it's not duplicated in  
25 the black binder, but you have it there in your source

1 book, and I can't help you as to precisely where it is  
2 but I can tell you that it is entitled --

3 MADAM CHAIR: And is this 1 or 1, source  
4 book 1 or 2?

5 MS. SWENARCHUK: 2, Madam Chair.

6 MADAM CHAIR: Thank you.

7 MS. CRONK: Entitled: The Impact of Strip  
8 Cutting on Logging Costs by D. S. Ketcheson.

9 MADAM CHAIR: That's fine. We've got  
10 these indexed by author.

11 THE WITNESS: What is that?

12 MS. CRONK: I can't help you find it, Mr.  
13 Marek, I'm sorry.

14 THE WITNESS: No, actually I have it  
15 here, just a minute.

16 MS. CRONK: Q. Thank you. Do you have  
17 the 1982 Ketcheson article?

18 A. Impact of Strip Cutting on Logging  
19 Costs, Additional Road Construction, blah, blah.

20 Q. Yes, thank you. This is to clarify  
21 the issue that arose immediately before the luncheon  
22 break with respect to what these analysts did on that  
23 cost item. Could I ask you to look first at page 30,  
24 if you would, please.

25 A. Yeah.

1                   Q. And the far right-hand column, this  
2                   is a description of the consideration given by the  
3                   authors to costs associated with the movement of  
4                   personnel and materials on site.

5                   A. Mm-hmm.

6                   Q. And if you look over at page 32, I  
7                   would ask you to look at Table 4, page 32. Do you have  
8                   that, the summary of extra costs per hectare of strip  
9                   cut area.

10                  A. On page 32 at the top there?

11                  Q. At the bottom, Table 4?

12                  A. At the bottom. Summary of total  
13                  costs, road costs...

14                  Q. Summary of extra costs per hectare of  
15                  strip cut area. Do you have that, Mr. Marek?

16                  A. No, I don't have it.

17                  Q. Okay, I'm sorry. Page 32.

18                  A. I have page 32.

19                  Q. All right. The table at the bottom  
20                  in the left-hand corner is called Table 4.

21                  A. (a), (b), (c).

22                  Q. Yes.

23                  A. Summary of construction...

24                  Q. Yes, you have. You have it. That's  
25                  It.

1                   A. That's right.

2                   Q. All right. Under (a) activity, we  
3       see the last item included as movement of men and  
4       materials.

5                   A. Right.

6                   Q. And a range of estimates are  
7       approximated being from \$4.30 to \$8 per hectare. Do  
8       you see that?

9                   A. Yes.

10                  Q. All right. Now, could I ask you to  
11      go back to page 30 so that we can determine what it was  
12      that was included in that.

13                  A. Mm-hmm.

14                  Q. And in the column on the far right,  
15      if I could direct your attention to the third paragraph  
16      beginning with the words:

17                  "The movement of administrative...", do  
18      you have see that?

19                  A. Yeah.

20                  Q. It indicates that:

21                  "The movement of administrative,  
22                   operational and service equipment..",  
23      there's a discussion there of that item and measuring  
24      the extra costs associated with it.

25                  A. Mm-hmm.

1                   Q. And the next paragraph suggests that  
2       the movement of labour to and from the cutting site may  
3       be affected by strip cutting.

4                   A. Mm-hmm. Yes.

5                   Q. And the next paragraph indicates a  
6       consideration of the costs associated with the  
7       relocation of field garages and the movement of  
8       equipment. Do you see that?

9                   A. That's correct.

10                  Q. All right. Dealing with the same  
11       article, page 29, very first page, middle column under  
12       planning, layout and supervision, do you see that?

13                  A. Un moment. You talk about page 29?

14                  Q. The middle column.

15                  A. Planning, layout, supervision,  
16       correct.

17                  Q. Yes. The authors indicate under  
18       planning and layout:

19                    "In comparison with unrestricted  
20       clearcutting, strip cutting is a more  
21       complicated approach to logging.

22                  Approximately twice the area has to be  
23       operated to harvest a specified volume.

24                  Initially at least road access is needed  
25       earlier than with clearcutting and longer

1                          range planning is necessary."

2                          Would you agree that that's consistent  
3                          with the observations made by Johnson and Smyth in  
4                          their later analysis?

5                          A. Ketcheson, as I pointed out to you,  
6                          Madam, did this study in 1984. May I suggest to you  
7                          and to the Board that the harvesting system changed  
8                          considerably and the parameter put into this kind of  
9                          appraisal and vary considerable from that time; in  
10                         other words, we have a different system we use, so you  
11                         have a different parameter to consider and different  
12                         costs.

13                        Q. I understand the evidence that you've  
14                         given about the changes in harvesting technique from  
15                         1984.

16                        A. Right.

17                        Q. But just dealing with --

18                        MADAM CHAIR: Excuse me, wasn't Ketcheson  
19                         1979?

20                        MS. CRONK: The Ketcheson article you're  
21                         looking at, Madam Chair, is 1982. There's a series of  
22                         Ketcheson articles. The Smyth and Johnson one you will  
23                         recall is 1988.

24                        MADAM CHAIR: No, some of the estimates  
25                         that they used of Ketcheson's original work was '79.

1 MS. CRONK: Yes, from his '79, paper  
2 that's right.

3 Q. But just dealing, Mr. Marek, with  
4 this particular paragraph, do you agree that the issues  
5 or observations made by Ketcheson here about the  
6 planning, layout and supervision, road access factors  
7 are the same as those raised by Johnston and Smyth in  
8 their later work?

9 A. No, I disagree.

10 Q. You think they're different?

11 A. That's right.

12 Q. All right. In the next paragraph  
13 Ketcheson indicates:

14 "The strip configuration of the cut also  
15 poses operating problems and in order to  
16 minimize these and to avoid terrain  
17 related problems resulting from poor  
18 layout, more detailed planning of  
19 harvesting operations than is the rule  
20 with clearcutting is required."

21 That is consistent with the--

22 A. That's consistent, yeah.

23 Q. --with the opinion you've expressed?

24 A. That's right.

25 Q. Yes. All right. Now, to sort out

1       the cost issue then, we see that Ketcheson in his 1982  
2       paper calculated a range of estimates for costs  
3       associated with the movement of personnel and materials  
4       and indicated that it included such items as relocation  
5       of field garages. Could I ask you now to go back to  
6       the Johnson and Smyth article at Tab 23. Tab 23 of the  
7       big black binder.

8                   A. Okay.

9                   Q. Page 60.

10                  A. Yes.

11                  Q. And the top paragraph on the  
12       right-hand side, movement of the equipment.

13                  A. Yes.

14                  Q. All right. On my reading of it --  
15       and I would ask you to take a minute, Mr. Marek, to  
16       read it yourself so you can assist the Board with this.

17                  On my reading of it, it suggests that  
18       Johnson and Smyth, these authors, used Ketcheson's  
19       figures from 1979 associated with garage costs but  
20       introduced as well an additional item of cost relating  
21       to equipment overhead charges.

22                  A. Which is..?

23                  Q. \$13.31 per hectare.

24                  A. Yes, yes.

25                  Q. The amount is irrelevant.

1                   A. Yeah.

2                   Q. Do you agree with that  
3 inspirationinterpretation?

4                   A. Do I agree with this cost or  
5 interpretation, what --

6                   Q. I'm sorry, I just want to make sure I  
7 am reading it right.

8                   A. Oh, you are reading it right, but you  
9 are asking me if I agree with what?

10                  Q. Sorry. All right, let me clarify.

11                  Do I correctly understand that they used garage costs  
12                  associated with Ketcheson's work but introduced as well  
13                  equipment overhead charges not dealt with by Ketcheson?

14                  A. Could be. Yes, I think so they did.

15                  Q. Thank you. Which in fairness to you,  
16                  as I think what you pointed out, and I'm just trying to  
17                  clarify that that was the case, that there's these two  
18                  elements of cost being taken into account by Johnson  
19                  and Smyth.

20                  A. Under different systems.

21                  Q. Yes, exactly.

22                  A. Under completely different systems.

23                  Q. All right. Now, you've said several  
24                  times that there are completely different harvesting  
25                  systems today than reflected in these costing analyses.

1        Specifically, Mr. Marek, what is it in terms of  
2        harvesting methodology that you say was considered in  
3        this costing analysis that doesn't reflect what's  
4        occurring today in the field?

5                  A. Well, first of all, Madam Chair, in  
6        late 70s and beginning of 80 there was still the  
7        harvesting system based on not a full-tree removal but  
8        tree-length system that has been through -- obvious  
9        through the whole interrogation and your hearings.

10                 The fellow bunchers were introduced late  
11        in 80s and is still being used which were equipment or  
12        technology which was not used late 70s when Ketcheson  
13        start working on some of these parameters.

14                 I think the commuting operations  
15        ceased -- pardon me, the commuting operation started,  
16        oh, I would say mid, late 70s, beginning of 80s, the  
17        contracting system of hiring contractors to do what  
18        usually has been done in the past by company.

19                 So you have all variation and all broad  
20        aspect of changes which occurred to the more  
21        technological oriented harvesting systems, and to my  
22        knowledge while some parameters like, for instance,  
23        cost of the road, even there it change because now they  
24        are harvesting area on the long distances -- on longer  
25        distances as they did in 70s where they were limited by

1 shear technology of equipment providing it, so that  
2 changed considerably.

3 So while some of it may be applicable  
4 like road, and partially I suppose the disposition of  
5 timber on the long period, many of these parameters  
6 like garages and so and whole aspect of them change  
7 considerably; therefore, I cannot take these things too  
8 seriously, Madam.

9 Q. All right. Mr. Marek, recognizing  
10 what you've said, the analysis by Johnson and Smyth  
11 expresses -- the costs contained in those analysis are  
12 expressed in 1985 dollars, it was published in 1988 and  
13 it refers to work done in the late 1970s as well as the  
14 early 1980s.

15 A. Correct.

16 Q. Do you have any reason to believe  
17 that the authors did not take into account the  
18 circumstances that were current in the early 1980s when  
19 they prepared this analysis?

20 A. No, no.

21 Q. Thank you.

22 MR. MARTEL: Mr. Marek, am I missing it  
23 somewhere or isn't this article by Smyth and Johnson, I  
24 guess it is, is there - or Smyth and Johnson - is there  
25 a final figure anywhere, and I've been looking as to

1       the comparison, comparative costs of one could say,  
2       well it, cost \$125 a hectare more to do it this way  
3       than this way. There are figures but there doesn't  
4       seem to be - unless I have missed it - a place where  
5       they are totalling it up and saying, this is what it  
6       might cost.

7                   MS. CRONK: Q. Mr. Marek, could I take  
8       you to page 62, please.

9                   MS. SWENARCHUK: May I just tell you, Mr.  
10       Martel, that we have attempted to do that in our Panel  
11       7 evidence. It's not a simple question, we tried to do  
12       it, tried to look at --

13                  MR. MARTEL: No, I am just wondering,  
14       since these gentlemen had done the study, spent  
15       extensive time, have they tried to do it, putting a --

16                  MS. CRONK: I understand, sir.

17                  Q. Could I ask Mr. Marek to respond to  
18       Mr. Martel's question. Could I ask you to go to page  
19       63.

20                  A. Page 63 of...?

21                  Q. This same article, Johnson and Smyth,  
22       the one you have open in front of you.

23                  A. Yeah.

24                  Q. Page 63.

25                  A. 63, yeah.

1                   Q. It is my understanding on the reading  
2 - of the article, Mr. Marek, and perhaps you can help me  
3     with this, that there is no overall comparative total  
4     presented for the clearcutting versus strip cutting  
5     options, given that a range of costs is used in various  
6     categories.

7                   - Is that consistent with your  
8     understanding of the article? There is no overall cost  
9     dollar for dollar comparison made because ranges of  
10    costs are developed?

11                  A. Yeah, there is many hidden costs and  
12    other things which perhaps do not include the reality  
13    in the operation itself. Changable cost, the other  
14    thing.

15                  Well, answering to Mr. Martel. Mr.  
16    Martel, it's extremely difficult to put a package  
17    together and I fought with it for many, many years,  
18    believe me or not, trying hard to put the figure you  
19    are after where I say: Okay, here I going to do this,  
20    and here I going to do this, and we going to get  
21    comparative realistic cost to go to the company and  
22    say: This is what it cost, this is what we are going  
23    to pay you for it, say, performance.

24                  The reason being that we have various,  
25    various -- in various part of Ontario you have

1 different company which look upon, upon the costing,  
2 the economics in a completely different way and I know.  
3 the difficulties for forest manager to make one cost  
4 applicable to all companies.

5 The reason being that we have in various  
6 parts of Ontario you have a different company which  
7 look upon the costing, the economics in a completely  
8 different way, and I know the difficulties for forest  
9 managers to make one cost applicable to all companies.

10 The fact is, and we have already  
11 mentioned a few minutes ago the technology of  
12 harvesting or harvesting system applied varies from  
13 area to area. The condition of terrain, the condition  
14 of labour market, the condition of what we are going to  
15 do differs.

16 So answering your question, Madam Chair  
17 and Mr. Martel, my answer would be that we have to go  
18 back to the groundrules from the beginning and say this  
19 applied to Domtar, this would apply for James Bay or  
20 this is going to apply for Kimberly Clark, establish  
21 some kind of criteria and deal individually.

22 Now, one of the problems with FMA have  
23 shown right from the beginning that we didn't want to  
24 deal with these things. There should be one answer to  
25 all companies because if you are going to give one

1 company a few dollars more, immediately the other  
2 company says: How come they are getting more or less  
3 or whatever it may be.

4 So you can see the difficulties of  
5 analytical documentation where you are going to try or  
6 from the top try to please everybody so we get certain  
7 things done and all of a sudden realize that the  
8 parameter you put -- this is a problem with modelling  
9 nowadays, that in order to put something in may apply  
10 or not apply to certain area of undertakings.

11 MS. CRONK: Q. Mr. Marek, just to --  
12 sorry, sir.

13 MR. MARTEL: That's fine.

14 Q. With respect to page 63 and  
15 specifically what Mr. Martel asked about this document,  
16 this article, am I correct that the closest that the  
17 authors could come to a final dollar comparison of the  
18 clearcutting versus strip cutting approaches is  
19 contained in Figure 4 and it requires interpretation of  
20 that figure to make a cost comparison.

21 I don't think you can answer that without  
22 looking at the document, perhaps you can.

23 A. I have to think the same time, Madam.  
24 You see, one of the problems is to give you a proper  
25 answer I have to think a little more than you think.

1 Q. Could I ask you to look at Table 4.

2 A. Okay. I can look at the table and I  
3 have looked at it before, Madam.

4 Q. Am I right that that is the end  
5 table, if I can put it that way, in this particular  
6 costing analysis that compares the relative costs of  
7 clearcutting to strip cutting?

8 A. This document probably shows the best  
9 these people could come up with.

10 Q. Yes. Table 4, that I am asking you  
11 about, is the concluding comparison of the relative  
12 cost of strip cutting to clearcutting; am I right in  
13 that?

14 A. That's correct.

15 MR. FREIDIN: Figure 4.

16 MS. CRONK: Figure 4. Did I say Table 4?  
17 Sorry, Figure 4.

18 Q. Really, just so that it's clear, Mr.  
19 Marek, is this analysis and the type of analyses done  
20 by Ketcheson analyses that are relative comparisons  
21 based on assumptions and fed into cost models?

22 That's what these costing analyses are  
23 all about? Is that consistent with your understanding  
24 of it?

25 A. Well, if you transfer some of the

1 know-how and if you transfer some of the information  
2 from Ketcheson into this report, and I see frequently  
3 this is being done, we are using Ketcheson's things.  
4 So it doesn't make too much sense to me because you are  
5 immediately transferring something which may not be  
6 valid at that time when you made that report.

7 Q. That's another matter, Mr. Marek.  
8 Perhaps we can move on.

9 A. Okay.

10 Q. We were talking about this in the  
11 context of my having suggested to you and your having  
12 agreed after a discussion that there are a number of  
13 factors or reasons other than pure costs that influence  
14 foresters' thinking on the desirability of using  
15 modified harvesting on a broad scale basis, and we went  
16 through these articles for that purpose.

17 A. That's correct.

18 Q. Just to finish that off, could I ask  
19 you to go to Tab 24.

20 A.. Yes, I have Tab 24.

21 "Ultimate clearcutting in upland  
22 spruce..."

23 Q. Tab 24 is an article to which you  
24 referred earlier by Lorne Morrow of Domtar Forest  
25 Products concerning planning and implementation

1 considerations in the black spruce studies that were  
2 done?

3 A. It's an article based on his  
4 presentation at the seminar in Nipigon.

5 Q. Yes. It outlines, does it not, among  
6 other matters, Domtar's involvement in the long-term  
7 research studies in modified harvest cutting in the  
8 Nipigon area?

9 A. Yes.

10 Q. Could I ask you to look at the first  
11 page, page 64. As I understand it, there is an  
12 introduction to the paper and then a description by the  
13 author of the procedures used by Domtar in the planning  
14 and implementation of alternate strip cutting?

15 A. Yeah.

16 Q. As we move through the article, over  
17 to page 67, a discussion is set out regarding  
18 operational constraints.

19 A. Correct.

20 Q. Do you have that?

21 A. Yeah.

22 Q. Looking at that section of the  
23 document on page 67, could I direct your attention to  
24 the right-hand column and the last paragraph entitled  
25 Reduced Machine and Skidway Flexibility.

1 A. That's correct.

2 Q. Mr. Morrow indicates:

3 "This operational constraint..." Under  
4 the heading of Reduced Machine and Skidway Flexibility,  
5 "This operational constraint is probably  
6 the most difficult to control and  
7 predict. There will always be specific  
8 situations in which original strip  
9 alignment cannot be practically  
10 implemented on the ground. The problem  
11 increases proportionally as the harvest  
12 strip becomes longer and narrower."

13 So stopping there for a moment. Mr.  
14 Morrow is identifying some operational constraints to  
15 the strip cutting technique?

16 A. Yes.

17 Q. He goes on to say:

18 "Only through extensive liaison between  
19 the forestry and logging department can  
20 this be reduced. The key is flexibility.  
21 Forest managers must be prepared to alter  
22 modified cut layouts during logging  
23 operations on the site. Operational  
24 foremen must also be prepared to  
25 accommodate silvicultural requirements

1                   and prescriptions for that particular  
2                   stand."

3                   Do you agree, Mr. Marek, that to overcome  
4                   operational constraints inherent to the strip cutting  
5                   method it is advisable that forest managers be in a  
6                   position to alter modified cut layouts during logging  
7                   operations on the site?

8                   A. This is what we call integration of  
9                   logging and silviculture, Madam. This is what it is.

10                  Q. Do you agree that that's desirable?

11                  A. I agree. That's what I'm saying.  
12                  I'm putting more specific (inaudible) here of  
13                  integration between harvesting and silviculture.

14                  Q. What we have then is we have the  
15                  economic factors and the cost issues that you spoke  
16                  about and that we have looked at. In addition we have  
17                  the silvicultural factors or concerns raised in these  
18                  article articles and we have operational realities, if  
19                  I can put it that way, raised by Mr. Morrow?

20                  A. Correct.

21                  Q. Taking all of that into account, Mr.  
22                  Marek, would you agree with me that modified cutting,  
23                  modified harvesting is not a panacea as a harvesting  
24                  solution throughout the entire boreal forest? It is  
25                  not --

1                   A. It's not a panacea and I never  
2       claimed it is.

3                   Q. Right. It is an important mechanism  
4       or method to be utilized in appropriate sites and  
5       nothing more than that?

6                   A. Yes.

7                   Q. Then there is -- just before we leave  
8       the Morrow article, Mr. Marek, if I could, could I ask  
9       you to look at page 68 because I will be coming back to  
10      this in another context. That's still the same tab we  
11      were at.

12                  You will see there are two diagrams  
13      there. If you look at Figure 6 on the bottom, does  
14      that figure, Figure 6, set out the area of the proposed  
15      modified harvest cut in the Domtar -- in this portion  
16      of the Domtar Nipigon limits?

17                  A. Yes, I have shown some slides of it  
18      in the Vincent Township.

19                  Q. I was going to ask you. This  
20      pertains to Vincent Township?

21                  A. Yes.

22                  Q. Some of the slides that you showed  
23      pertained to portions of this strip cutting plan area?

24                  A. That is correct.

25                  Q. Thank you.

1                   Q. Mr. Marek, during the course of your  
2 presentation of your slides you raised a number of  
3 separate issues which you illustrated by various  
4 slides, and rather than taking you back to those  
5 individual slides, what I propose to do is ask you a  
6 number of questions about the issues generally that you  
7 raised and see if we can deal with that way so we don't  
8 have to go through all those slides again.

9                   One of the issues, for example -- I will  
10 show you what I mean. One of the issues you raised in  
11 a number of slides was the issue of logging debris or  
12 slash left on site?

13                  A. Logging debris/slash, yes.

14                  Q. You illustrated a number of  
15 situations to the Board where you suggested that debris  
16 or slash had been left on site when it represented what  
17 you described as merchantable wood?

18                  A. Correct.

19                  Q. Do you recall that? You have  
20 described that variously either in the Beardmore  
21 witness statement or the Forests for Tomorrow Panel 3  
22 statement as merchantable wood or wood waste?

23                  A. Exactly.

24                  Q. The two -- that's what it refers to?

25                  A. When you talk merchantable wood --

1 you realize what merchantable wood is?

2 Q. As you use it, what you are talking  
3 about when you presented those slides was the wood  
4 waste issue that was logging debris on site, what was  
5 left on site?

6 A. This term merchantable wood is in  
7 accordance with the Crown Timber Act, Ma'am.

8 Q. What you were talking about when you  
9 gave that evidence was what was left on the site? You  
10 showed that in a number of slides; is that correct?

11 A. Correct.

12 Q. Now, could I ask you, to start this,  
13 to turn to page 32 of your witness statement for Panel  
14 3, please.

15 MR. FREIDIN: What page?

16 MS. CRONK: 32.

17 Q. If I could ask you to look at the  
18 bottom of page 32, Mr. Marek.

19 A. "It is my impression..."

20 Q. Yes, that's right. I would direct  
21 your attention to the second last sentence on the page.  
22 You are talking about full-tree harvesting--

23 A. Correct.

24 Q. and what your impressions are about  
25 this, and you then state:

1                   "Industry also emphasizes the benefits of  
2                   higher yields from cut-overs. This can  
3                   be disputed when one sees the large piles  
4                   of tops and debris accumulated  
5                   along the roadside instead of being left  
6                   all over the production area in  
7                   reasonable quantities. However, on  
8                   lowland sites on the Clay  
9                   Belt, debris left on cut-overs is quickly  
10                  overgrown and removed from the active  
11                  nutrient pool by certain sphagnum moss  
12                  species. The removal of the slash from  
13                  the planted area may make it easier to  
14                  plant, but on many sites it may be very  
15                  difficult for the seedlings to grow and  
16                  prosper."

17                  Now, stopping there, Mr. Marek. I had  
18                  some difficulty understanding what, from a  
19                  silvicultural point of view, you thought desirable  
20                  practice was.

21                  Are you saying to the Board that you  
22                  believe that debris or slash should be left on site in  
23                  what you have described as reasonable quantities all  
24                  over the production area?

25                  A. Reasonable quantities. This is a

1       very important aspect, Ma'am. I am asking for  
2       reasonable quantities of nutrients being left on the  
3       cut-over site and also reasonable amount of "slash" or  
4       you may call it debris -- actually it's not debris,  
5       it's slash, crowns, to serve as a seed source, to serve  
6       as a protection for young seedlings and protection of  
7       microsite.

8                     Q. And you are critical, as I read your  
9       evidence, please correct me if I am wrong, but you are  
10      critical in your evidence of forestry practices which  
11      call for the removal of that slash or that debris?

12                  A. On sites or specific site conditions  
13      where this debris serve the use, purpose.

14                  Q. I see. So do I understand from that  
15      that it is only on certain sites that you think slash  
16      should be left, as you described, in reasonable  
17      quantities?

18                  A. Yes, that's right.

19                  Q. Only certain kinds of sites?

20                  A. That's right.

21                  Q. What kinds of sites are those?

22                  A. Sites which are -- where the  
23      nutritional capital has to be removed -- pardon me,  
24      must not be removed in order to keep the site in  
25      productivity and other aspects which I have described a

1 few seconds ago; that is, the protection for microsite,  
2 seed supplies, protection of germinants and so on in  
3 black spruce management. we have to be very clear on  
4 that.

5 Q. You are talking about black spruce?

6 A. I am talking about black spruce  
7 sites.

8 Q. Are you talking then about the  
9 shallow soil sites that you have described to the  
10 Board?

11 A. I'm talking about sites which are  
12 unable in their quality; in other words, the  
13 nutritional capital is probably fairly low and the  
14 rehabilitation or the aggregation period perhaps is  
15 going to last quite long in order to get the site into  
16 productivity again and maintain the productivity.

17 Q. How do you suggest, Mr. Marek, that  
18 prior to harvesting that identification be made so as  
19 to permit the forester to determine whether slash  
20 should be left or not?

21 A. FEC.

22 Q. So you are saying based on FEC  
23 classifications the site should be identified and on  
24 some slash should be left and on others it should not?

25 A. I'm not talking about FEC as now, as

1        it is now. There should be supplementary information  
2        dealing with the condition of the site after  
3        harvesting.

4                   Q. All right. Isn't it the condition  
5        before harvesting that would be relevant to know in  
6        order to determine whether debris should be left?

7                   A. Oh, very much. You have to know the  
8        stand prior to harvesting, you have to know the  
9        condition after harvesting.

10                  Q. Are you suggesting then that a new  
11        set of definitions should be constructed that permits  
12        that kind of identification?

13                  A. Correct.

14                  Q. Prior to harvesting?

15                  A. Yes.

16                  Q. And are there any parameters that you  
17        suggest to the Board are appropriate for that purpose?

18                  A. These parameters will have to be  
19        investigated in detail and the problem that site  
20        changes after harvesting has to be considered; in other  
21        words, depending on the site productivity, depending on  
22        the site or the terrain of the land, this consideration  
23        has to be given and incorporated in new revised FEC.

24                  Q. So at the moment you don't have the  
25        parameters to suggest, you think it is a matter for

1 further study?

2 A. We have some parameters which are  
3 very broad, but in general I'm not happy with them  
4 because I don't think they are adequate to guide  
5 foresters into his silvicultural prescriptions.

6 Q. With respect to the supplementary  
7 definitions that you say should be introduced to FEC,  
8 you are not in a position now to give the Board those  
9 parameters, you think it is a matter that should be  
10 studied further?

11 A. No, I think there are many parameters  
12 that I can suggest to you, Madam Chair and Ms. Cronk.

13 I feel that these parameters could be on  
14 a temporary basis implemented even know, perfectly well  
15 knowing some of these conditions which we are faced  
16 after harvesting.

17 However, if we want to make a really good  
18 study of it and incorporate these into the present FEC,  
19 and I have seen it done for Alberta, I have it done in  
20 other parts of lands where these people just  
21 continuously study this problem but they can for  
22 temporary put some some of these parameters in.

23 May I expand on it, Madam Chair?

24 Q. Perhaps the better way to go about  
25 it, with the indulgence of the Board, Mr. Marek, is for

1 me to be very clear about the question I am asking you,  
2 for you then to consider it nad provide me with your  
3 answer.

4                   The question and I am asking is: What  
5 parameters do you say are necessary to form the new  
6 definitions in FEC for the purposes of determining site  
7 where slash should be left or should not be left based  
8 on the opinion you have expressed?

9                   You can give me a list of those when you  
10 have had an opportunity to consider it.

11                  A. I mentioned it already that you have  
12 to be very careful and identify floristic peramaters of  
13 changes in the site after harvesting. That's No. 1.

14                  If you want to have some control, some  
15 knowledge of these changes, then you can incorporate it  
16 into the FEC and that can be by observation.

17                  Q. What I am interested to know -- you  
18 will appreciate, Mr. Marek, that when suggestions of  
19 this kind are made to the Board, in order to weigh  
20 whether they should be accepted and authorized by the  
21 Board, there has to be an assessment as to whether it  
22 is practical, whether it can be done, and I am  
23 interested in knowing what parameters it is that you  
24 say are appropriate to be looked at for the purposes of  
25 segregating between sites here?

1                   A. My answer is floristic identification  
2                   of cut-overs, damage done to the cut-overs, the growth  
3                   of seedlings, growth of the dynamics of regeneration.

4                   I visited, I think, fairly frequently in  
5                   my slide presentation.

6                   Site changes. You have to identify some  
7                   of the changes. It may be for better, may be for  
8                   worse.

9                   Q. Perhaps not to take the time now,  
10                  could I ask you over the evening just to list 1, 2, 3,  
11                  4; 1, 2, 3, 4, 5, whatever number it is exactly what  
12                  you say the parameters are that should be used to  
13                  determine sites where slash should be left as distinct  
14                  from sites where slash shouldn't be left based on your  
15                  evidence.

16                  Could I ask you to do that so that we  
17                  have a list that we could give to the Board and you and  
18                  I have a basis to discuss it?

19                  A. I have to honour your request. Also,  
20                  I feel it's very well put in my presentation, Madam.

21                  Q. I had some difficulty in extracting  
22                  from your presentation, Mr. Marek, with respect to this  
23                  particular issue, what it was that you felt were the  
24                  appropriate parameters.

25                  A. Madam, in my presentation I have a

1       list of "fragile" sites unstable sites. You know that.

2                   Q. Yes.

3                   A. Once you look at them, you  
4       immediately see the problem what we are talking about.

5                   Q. Yes, but my problem is this, Mr.

6       Marek: I asked you if it only applied to your fragile  
7       sites and you told me no, that it applied to those  
8       where the nutritional capital required it.

9                   A. Madam, we are fighting about  
10      definition again.

11                  Q. I don't wish to do that.

12                  A. But we are.

13                  Q. The best way to approach it, unless  
14       you tell me this is going to takes hours of work, if it  
15       is just a few minutes, could I ask you this evening to  
16       write out in handwriting a list of those parameters  
17       that you are asking the Board to order should be taken  
18       into account in segregating between these sites.

19                  Would you do that for me?

20                  A. I cannot say yes or no. May I point  
21       out, Madam, to you, in the FEC we have a groupings  
22       which describe the conditions of the site. You are  
23       aware how many groups we have?

24                  Q. Yes.

25                  A. How many?

1                   Q. Mr. Marek, it is your evidence that  
2                   counts.

3                   A. I'm sorry, but we have to go in these  
4                   details otherwise we are talking nonsense here, Madam.

5                   I'd like to point out to you very clearly  
6                   that in order to prepare some guidelines, and I don't  
7                   want to me mediocre, one of the problems is I don't  
8                   want to provide the Board with mediocretiy. I like to  
9                   deal with concrete qualitative and scientific approach  
10                  to forest management.

11                  If you ask me to prepare something which  
12                  is based on FEC, which is probably 35 different groups,  
13                  from which may be some of them fragile or unstable and  
14                  it talks about this, I am confronted with a task which  
15                  group like here are going to say: Well, does it  
16                  exactly identify the condition, exactly. I don't want  
17                  to get into it. I just don't feel it's realistic.

18                  Q. That's fine. I accept your answer.  
19                  Do I have it then that you feel there are parameters  
20                  known today that could be used for the purpose of  
21                  segregating these different tyes of sites?

22                  A. Many of them are, some of them are as  
23                  yet unknown and being researched.

24                  Q. Is it a matter that requires further  
25                  research and study and there should be a clear

1 definition of these developed? That's what you are  
2 telling this Board?

3 A. Madam, we are steady embarking on  
4 terminology. What is unstable, what is fragile, what  
5 is sensitive? I see complete chaos when we start  
6 identifying these without knowing perfectly what we are  
7 talking about in, for instance, FEC.

8 Madam, may I...

9 Q. Could I ask you --

10 A. Could I suggest -- excuse me. Could  
11 I suggest one example. Alberta presently is using some  
12 of these guidelines what Madam Cronk is after. They  
13 are incorporated in the FEC, and may I very shortly  
14 examine how they do it.

15 While they haven't got the research  
16 advanced to being specific, they say: Group such and  
17 such, and there are many groups, say this at the bottom  
18 for instance, if logged by such and such a method - and  
19 that's what you are after - if logged full-tree  
20 operation, the danger exists that: Please, forester  
21 manager, examine sites very carefully and be guided by  
22 some of these proposals.

23 Now, are you asking me to do tonight for  
24 you what they do?

25 Q. No, Mr. Marek, and in fact you have

1 told me that's not practical.

2 A. No, it's not practical, it's  
3 something I cannot do, scientifically do right now.

4 Q. Okay, that's fine. I accept that.

5 Thank you.

6 Could I ask you to go to Tab 19, please,  
7 if you would. This is the Jeglum article that we  
8 looked at before in another context.

9 A. That's right.

10 Q. What we are dealing with now for the  
11 purpose of my questions, Mr. Marek, is the issue of  
12 leaving slash or logging debris on site and a number of  
13 aspects of that.

14 A. Correct.

15 Q. I would ask you, if you would, please  
16 to 443 of the Jeglum article and I would ask you to  
17 look at the right-hand column, the second full  
18 paragraph beginning with the words: "This study..."

19 Do you see that?

20 A. "This study also suggests that..."

21 Q. That's at Tab 19, page 443. Looking  
22 at middle of that paragraph beginning with the words:  
23 "However, in my black spruce areas..."

24 Do you see that?

25 A. That's right.

1                   Q. Dr. Jeglum indicates:  
2                    "However, in many black spruce areas,  
3                    mosaics of lowland and upland occur with  
4                    wetter and dryer areas. Without  
5                    scarification, the manager may expect to  
6                    obtain marginal regeneration on the  
7                    higher dryer parts that are often  
8                    dominated by feather mosses. In these  
9                    circumstances, you could increase the  
10                  chances for successful regeneration by  
11                  narrowing the strip width to 30 metres  
12                  and by employing full-tree log to  
13                  minimize slash which inhibits  
14                  regeneration."

15                  Just dealing with that for a moment, Mr.  
16                  Marek. Do you agree that slash inhibits regeneration  
17                  on some sites?

18                  A. If we have too much of it, yes.

19                  Q. And do you also agree with Dr.  
20                  Jeglum's suggestion that there are circumstances in  
21                  which employing full-tree logging would be appropriate?

22                  A. No. On certain sites, no.

23                  Q. On certain sites, no. I'm sorry, I  
24                  don't know what that means. Are you saying it should  
25                  not be employed at all, or do you agree --

1                   A. That full free logging in certain  
2 black spruce working group under certain site condition  
3 it should not be applied.

4                   Q. And the reverse, I take it, is also  
5 true?

6                   A. That's right.

7                   Q. Do we have then the situation where,  
8 on the one hand, leaving debris or slash on site may be  
9 valuable as a nutrient input, if I can put it that way,  
10 but, on the other hand, a disadvantage of doing so is  
11 that it can impede regeneration?

12                  A. Madam --

13                  Q. Is that the situation?

14                  A. Madam, I have suggested a reasonable  
15 amount of slash.

16                  Q. I understand.

17                  A. So when we apply these reasonable --  
18 and again you can argue with me what is reasonable.

19                  I said if you apply reasonable common  
20 sense in some cases amount of slash it may serve both;  
21 in other words, you will get seed, you will get  
22 protection. When you have too much slash you cannot  
23 scarify, et cetera.

24                  So it's a very local and very site  
25 specific and also, I would say, regenerative aspect of

1 our forest management.

2 Q. Well, just on that issue, could I ask  
3 you to go to page 441 please, the same recall article,  
4 Jeglum.

5 A. Right.

6 Q. In talking about the methods of  
7 layout harvesting and site preparation for strip  
8 cutting, at the top of the page in the left-hand  
9 column.

10 A. "Delimiting and toppling..."

11 Q. Yes. He says:

12 "Delimiting and topping were done on  
13 site, standard rubber tired skidders  
14 dragged tree length boles to roadside  
15 (Jeglum 1980). Slash was well  
16 distributed over the cut-over."

17 That's what you have suggested should  
18 occur?

19 A. Correct.

20 Q. He goes on to say:

21 "This can reduce the effectiveness of  
22 scarification and, hence, the amount of  
23 regeneration."

24 So Dr. Jeglum appears to be suggesting -  
25 I put it no higher than this, Mr. Marek - that there is

1       this conflict, if you will. On the one hand, impeding  
2       regeneration by leaving slash even where well  
3       distributed, as Dr. Jeglum says but, on the other hand,  
4       putting in place something which you have described as  
5       being a potential source of future nutrients. There is  
6       that tug and pull; is there not?

7                     A. When you apply, Madam, a reasonable  
8       distribution of slash tops or trees tops over black  
9       spruce -- again, I'm talking about black spruce.

10                  Q. So was Dr. Jeglum.

11                  A. You will find that you can serve very  
12       well both, that you can encourage site preparation, you  
13       can also encourage good regeneration of spruce and you  
14       encourage, of course, the additional input of nutrients  
15       in the ecosystem itself.

16                  Q. Do you acknowledge, Mr. Marek, that  
17       slash on sites even when well distributed can impede  
18       site preparation and, hence, regeneration?

19                  A. If well distributed in reasonable  
20       amount it does not, it does not impede the regeneration  
21       process. It enhances it, Madam.

22                  Q. I take it then in that respect, at  
23       least, you disagree with Dr. Jeglum?

24                  A. Exactly.

25                  Q. Could I ask you to go to the next

1       article, please.

2                   MR. MARTEL: But there is one difference,  
3       you said reasonable. I mean that with word is not  
4       in --

5                   THE WITNESS: It's not applied.

6                   MR. MARTEL: It deals specifically with  
7       slash over the area, well distributed, but it appears  
8       to me that you differ significantly, that you are  
9       saying it depends on the amount that's left.

10                  THE WITNESS: That's right.

11                  MR. MARTEL: Not just the fact that it is  
12       left, it has go to be --

13                  THE WITNESS: That's right.

14                  MR. MARTEL: I'm not sure how far you are  
15       aware part on that.

16                  MS. CRONK: All I was -- please don't  
17       write on the screen, Mr. Marek. We will be very  
18       unpopular.

19                  Mr. Marek, it's the concept that I am  
20       suggesting to you and what I am putting to you is that  
21       in silvicultural terms there is a real inherent  
22       conflict; that is not to say it can't be resolved, but  
23       there is an inherent conflict between the desire, on  
24       the one hand, to use slash as a source of future  
25       nutrients and, on the other hand, assure that it does

1       not impede regeneration. That is something that has to  
2       be balanced.

3                   I understood Mr. Marek to say that he  
4       didn't agree with that at all and, in fact, was quite  
5       the reverse and perhaps it's a matter ultimately for  
6       argument, Mr. Martel.

7                   I take it that you don't agree with my  
8       suggestion that there is that conflict?

9                   A. The conflict is in the extremes,  
10      Madam. Please, Madam Chair, look at, it makes a great  
11      difference if you look at slides I presented where the  
12      forester stands up to knee in the slash.

13                  Does that slash impede the site  
14      preparation? Of course because we haven't got the  
15      equipment to move it, remove it and prepare the  
16      microsite.

17                  Now, if you have no slash, you haven't  
18      got a problem with site preparation, obviously, because  
19      we have equipment which could go through right through  
20      without the impediment or the problem of slash.

21                  But surely there are reasonable levels  
22      and that's one of the forestry secrets, that we have to  
23      always get the reasonable accommodation of this  
24      problems. If you have too much of this, you are going  
25      to sacrifice something else. That's what Madam Cronk

1       is putting before me, isn't that a conflict.

2                     Of course, Madam, there is a big  
3       conflict. If you have a slash up to here, you won't be  
4       able to site prepare. If you have no slash, you may  
5       lose the nutrients on certain site or impede your  
6       exposure to the seedlings in microsite.

7                     So there are tradeoffs. I agree with you  
8       there are tradeoffs, but these tradeoffs got to be done  
9       still in the frame of beneficial to all aspect of  
10      regeneration effort. The reason we are scarifying is  
11      why? We are scarifying to prepare a new microsite in  
12      order to rejuvenate the site, in order to continue the  
13      the forest. If you have extreme on both you have a  
14      problem.

15                  Q. All right.

16                  A. Madam Chair, do I express myself  
17      clearly?

18                  MADAM CHAIR: Yes, Mr. Marek.

19                  MS. CRONK: Q. Dealing with what Dr.  
20      Jeglum said, am I at least right in that Dr. Jeglum did  
21      not suggest that the quantity of slash left on site  
22      determined whether this was an impediment to  
23      regeneration?

24                  A. He should have.

25                  Q. He did not?

1                   A. He should have.

2                   Q. That's your view. I understand that.

3                   I ask you to go to the next tab, please, Tab 20. This  
4                   is the article by Wood and Raper.

5                   A. What page are you talking about?

6                   Q. This is at Tab 20, page 447?

7                   A. All right.

8                   Q. Under Regeneration Options on the  
9                   left-hand column, there is the discussion of advanced  
10                  growth?

11                  A. Correct.

12                  Q. The authors indicate:

13                  "If forested leave strips are well  
14                  stocked with conifer, advanced growth, a  
15                  manager may decide to...stems as possible  
16                  by harvesting during the winter,  
17                  delimbing the number of skidding trails  
18                  and forwarding off the ground."

19                  That's a reference to Grutes, 1984?

20                  A. Right.

21                  Q. The authors indicate:

22                  "If forested leave strips are well  
23                  stocked with conifer advanced growth, a  
24                  manager may decide to preserve as many  
25                  stems as possible by harvesting during

1                   the winter, limiting the number of  
2                   skidding trails and forwarding off the  
3                   ground."

4                   That's a reference to Groot, 1984.

5                   A. Right.

6                   MS. SWENARCHUK: Excuse me, Ms. Cronk.

7                   MS. CRONK: Yes.

8                   MS. SWERARCHUK: Where are you?

9                   MS. CRONK: I'm at page 447.

10                  MS. SWENARCHUK: Of which tab?

11                  MS. CRONK: Tab 20, the Wood article.

12                  MS. SWENARCHUK: Thank you.

13                  MS. CRONK: Q. Do you see where I am,  
14                  Mr. Marek?

15                  A. Yes, I am following you.

16                  Q. And it continues:

17                  "Full-tree logging should also be  
18                  prescribed so that slash does not  
19                  smother young conifer growth...", a

20                  reference to Groot, 1984,

21                  "...however, the manager must be  
22                  cognizant of the potential effect of  
23                  full-tree logging upon site productivity.

24                  Gordon and Timmer, et al have cautioned  
25                  that the shallow soil upland black spruce

1                   site type may be susceptible to nutrient  
2                   depletion when harvested according to the  
3                   full-tree system."

4                   Now, stopping there for a moment. These  
5                   authors suggest; do they not, again without any  
6                   reference to the quantity of slash, that there can be a  
7                   problem on site of slash smothering young conifer  
8                   growth; correct?

9                   A. Correct.

10                  Q. All right. And that's done without  
11                  any reference to quantity or type of distribution of  
12                  slash?

13                  A. It's too bad, it isn't.

14                  Q. It isn't.

15                  A. No.

16                  Q. And then they go on to identify  
17                  perhaps another element of conflict or concern and,  
18                  that is, that one must be cautious, as you have  
19                  suggested, to maintain site productivity on shallow  
20                  soil upland black spruce sites and to avoid nutrient  
21                  depletion, and there's a discussion about that at some  
22                  length?

23                  A. Right.

24                  Q. Does it come to this, Mr. Marek, just  
25                  dealing with this particular aspect of the

1        slash/logging debris issue, that we know that slash can  
2        impede scarification or site preparation; correct?

3                    A. Correct.

4                    Q. We know that slash can impede  
5        planting efforts, you said so yourself in your own  
6        evidence; correct?

7                    A. Correct.

8                    Q. On the other hand, slash can provide  
9        a source of nutrient replenishment over time?

10                  A. Seed, seed.

11                  Q. Yes.

12                  A. Protection--

13                  Q. Yes.

14                  A. --to seedlings.

15                  Q. And nutrient replenishment, that's  
16        what your evidence was?

17                  A. Okay.

18                  Q. But there is also the potential for  
19        the smothering of emerging conifer regeneration if  
20        slash is left on site, that's another disadvantageous  
21        possibility; correct?

22                  A. If in excess.

23                  Q. All right. So all of these things  
24        have to be balanced in determining whether slash should  
25        be left on site and, if so, in what manner and to what-

1 extent?

2 A. Correct.

3 Q. All right. Now, you showed the Board  
4 a number of slides in which you suggested that the  
5 slash or wood left on site was merchantable wood. You  
6 showed the Board a number of slides, Mr. Marek, in  
7 which you suggested that the slash or wood left on site  
8 was merchantable wood that should, you said, have been  
9 utilized by the foresters after logging.

10 A. Yeah.

11 Q. Do you recall that whole series of  
12 slides?

13 A. Well, slash is not considered  
14 merchantable.

15 Q. The wood left on site--

16 A. That's better.

17 Q. --you described as being  
18 merchantable.

19 A. That's right, wood, merchantable wood  
20 left on the site.

21 Q. All right. I would like to deal  
22 first with this characterization of wood left on site  
23 as being the waste of merchantable wood, Mr. Marek.

24 First of all, can we agree that in  
25 discussing merchantability, what is or is not

1 merchantable, there's a relationship between volume and  
2 tree size that has to be taken into account?

3 A. No, it based on the Crown Timber Act,  
4 Madam. Crown Timber Act calls for merchantable,  
5 merchantable log which is specified by top diameters or  
6 butt diameters or -- in other words, it's a definition  
7 of log which is left on the ground unutilized and  
8 returned to be scaled and returned for burning.

9 Q. And you've given the Board your  
10 evidence as to, from your perspective, desirability for  
11 amendments to that statute and you discussed diameter  
12 size?

13 A. Yeah, correct.

14 Q. All right. What I meant -- remove it  
15 from the provisions of any statute, what I meant was  
16 for foresters and in particular for mills, for example,  
17 when you're talking about merchantability, there's a  
18 relationship between volume and size that has to be  
19 taken into account in determining whether something is  
20 merchantable?

21 A. That's right.

22 Q. All right. Do you have available  
23 with you here, Mr. Marek, Plonski's yield tables?

24 A. Yes, I do. See, Madam, I was  
25 prepared for you.

1 Q. Thank you.

2 A. I have it here.

3 Q. The tables, as I understand them in  
4 this particular context, Mr. Marek, indicate the  
5 quantity of wood required - I'm talking about black  
6 spruce, just black spruce - they indicate the quantity  
7 of wood required to get a yield of gross merchantable  
8 volume, there's a relationship between volume and  
9 amount of wood dealt with?

10 A. Yes, I agree.

11 Q. All right. Can you confirm for me  
12 with respect to the tables relating specifically to  
13 black spruce that they indicate that for black spruce,  
14 to get one cubic metre of wood you have to have about  
15 500 stems in gross merchantable volume?

16 A. Well, that's exuberant. I would like  
17 to hear that from you that you need 500 stems to have  
18 one cubic metre, you are wrong on that because 500  
19 stems, Madam, will give you probably just probably 10  
20 or 15 or 20 cubic metres. I don't know what you're  
21 talking about now, sorry.

22 Q. All right. Let's turn to page 13 of  
23 the yield tables, please.

24 A. Yes.

25 Q. All right. And I am suggesting to

1 you that when you -- let's start with trees that are 20  
2 years of age, the small ones, 20 years of age.

3 A. That's correct, site class 1A.

4 Q. Yes. That is the first grouping for  
5 black spruce.

6 A. Right.

7 Q. And I'm suggesting that for one cubic  
8 metre of wood what the entries indicate for gross  
9 merchantable volume is that you need about 500 stems.

10 Are you saying I am wrong in that?

11 A. Are we talking about merchantable  
12 wood, Madam?

13 Q. I'm talking about gross merchantable  
14 volume.

15 A. No, no. Are we talking about in case  
16 of -- see, what you are introducing completely new  
17 aspect. The Crown Timber Act stipulate what is not  
18 according to the yield tables, that has nothing to do  
19 with it.

20 You are right that Plonski yield tables  
21 are showing certain number of trees per acre or per  
22 hectare with such and such a net volume and so, but  
23 that has nothing to do with returning timber or call  
24 them merchantable or not.

25 Q. Well, it may have a great deal to do

1 with what a mill can use; would you agree?

2 A. Oh, but they will not harvest many of  
3 those stands would they?

4 Q. Let's deal with it in terms of --

5 A. It will be unmerchantable, that would  
6 be declared as not harvestable because zero rotation  
7 age. Who harvest here 20-year-old wood?

8 Q. Mr. Marek, let's look at Plonski's  
9 yield tables.

10 A. Yes, I do.

11 Q. Just bear with me for a moment.

12 A. Yes.

13 Q. In terms of this relationship between  
14 volume and tree size, am I right that Plonski's yield  
15 tables for black spruce indicate - and let's start with  
16 20 years, I took that because that was the first one in  
17 the tables - they indicate that to get one cubic metre  
18 of wood, of gross merchantable volume, you need  
19 something in excess of several hundred stems. I said  
20 500, that's my math. Am I right in that, as a general  
21 relationship?

22 A. Yeah, in this context perhaps that  
23 will be right. Yeah, perhaps so. Yeah, okay.

24 Q. All right.

25 A. In that context here.

1                   Q. Do you have any doubt about it,  
2 looking at Plonski's yield tables? That's the case;  
3 isn't it?

4                   A. No, I haven't got doubt at all about  
5 Plonski's yield table, what I'm doubting, the  
6 application of your measures.

7                   Q. I understand, and we will come to  
8 talk about what you meant by merchantable and what the  
9 realities are in terms of what a mill can use and,  
10 therefore, what's left on site.

11                  Am I correct that the older the tree,  
12 let's go up a bit, let's say 35 years.

13                  A. Yeah.

14                  Q. The older the tree, the fewer stems  
15 you require to get one cubic metre of gross  
16 merchantable wood, but you're still talking a couple of  
17 hundred stems?

18                  A. Correct.

19                  Q. And so on as we move up until the  
20 trees are mature?

21                  A. Correct.

22                  Q. And if we converted gross  
23 merchantable volume into net merchantable volume--

24                  A. Right.

25                  Q. --the number of stems required would

1       be even higher?

2                     A. Correct.

3                     Q. Doesn't that mean in practical terms,  
4       Mr. Marek - leaving aside whatever the definition of  
5       the term is under the Crown Timber Act - that in  
6       practical terms whenever Industry or government  
7       foresters are on site in the bush and there is wood  
8       left from the harvesting operation a determination has  
9       to be made as to whether what's left can in fact be  
10      utilized at the mill site, and that has to do with how  
11      many stems are present and what age they are and what  
12      quality they are?

13                  A. You may bring this concept in a  
14      production of biomass but in Crown Timber Act we are  
15      not as yet producing biomass, we are producing certain  
16      sizes of wood, will have to be measured or not to be  
17      measured to return for Crown dues or not to return, and  
18      indulging in this kind of controversy we are talking  
19      about apples and oranges, Madam.

20                  When Ministry going to agree with the  
21      companies that biomass; in other words, as expressed in  
22      Plonski's yield tables, biomass, mass of -- will be  
23      measured that way, then we have one discussion.

24                  If we going to stick to the Crown Timber  
25      Act which stipulate that merchantable log, merchantable

1 log is such and such a size and not to be allowed to be  
2 wasted beyond that size, we are talking completely  
3 different thing.

4 Q. All right. I asked you, Mr. Marek,  
5 and perhaps I can put it to you more simply. I asked  
6 you to leave aside for the moment whatever legal  
7 definition there might be of merchantability under the  
8 Crown Timber Act.

9 A. That's law.

10 Q. And the penalty scheme. Just set  
11 that aside. I'm talking now, I'm talking now about  
12 what happens in the bush when there's logging debris  
13 left on site, and what I'm really suggesting to you is  
14 that there are volume constraints on the  
15 merchantability of logging debris from the Industry's  
16 point of view.

17 Now, is that something that is foreign to  
18 you or can you accept that?

19 A. Madam, I cannot accept it because we  
20 have our law stipulating certain quality or quantity of  
21 timber which have to be returned. Now, if Industry  
22 going to come in, I have to go back again, we are  
23 talking about apples and oranges. I'm sorry, Madam.

24 MR. MARTEL: Can I ask something, I'm  
25 afraid once again -- does it really matter what

1 definition it falls under. If it's big enough to be  
2 utilized, should it be utilized; isn't that the  
3 question?

4 I mean, if we have got wood that's left  
5 on the ground and it's big enough to be ground into  
6 pulp or whatnot, is the question, shouldn't we be using  
7 everything that can be used as opposed to what fits  
8 into a little definition?

9 THE WITNESS: Yes. But the argument I  
10 hear from the other side of the bench is this, that  
11 according to Industry --

12 MS. CRONK: I'm still on the same side,  
13 sir, some days I -- I'm still on the same side. I'm  
14 sorry, I don't mean to be facetious, but I take your  
15 point, Mr. Martel, and perhaps because it is the  
16 witness' evidence of course that must be of assistance  
17 to you on this point.

18 Q. All I'm really suggesting to you, Mr.  
19 Marek, is this: Is that you have come before this  
20 Board - now, understand the question - you have come  
21 before this Board and you have shown them a number of  
22 slides and you have said, these were your words--

23 A. That's right.

24 Q. --and I quote 'that is unacceptable'.

25 A. Exactly.

1 Q. That's wood waste.

2 A. Exactly, according to the Crown  
3 Timber Act.

4 Q. Excuse me, and you offered an  
5 opinion, you said Industry and government should be  
6 using that wood.

7 A. Correct.

8 Q. And all I'm saying to you is that  
9 there are a number of constraints that are relevant to  
10 utilizing wood, one of which is volume and you have to  
11 look a little more closely than just saying it's  
12 unacceptable, and you have to say, is it big enough,  
13 can we get it off site, can the mill use it.

14 Now, would you agree with me that in  
15 those terms there are volume constraints that influence  
16 the merchantability of wood; yes or no?

17 A. Madam Cronk, no, clearly no, because  
18 that support the Board's statement that they wish to  
19 utilize wood is utilizable; in other words, what fits  
20 under the condition.

21 MADAM CHAIR: Mr. Marek, the Board hasn't  
22 made a statement about--

23 THE WITNESS: No, no.

24 MR. MARTEL: I asked a question.

25 THE WITNESS: No, no.

1                   MADAM CHAIR: --what's utilizable

2                   THE WITNESS: And the answer was no; in  
3 other words, I agree with Mr. --

4                   MS. CRONK: Q. You agree with the  
5 question that was put to you. Can we look at it a  
6 different way then, Mr. Marek, because we can put these  
7 slides up, go through them, but I don't think you want  
8 to do that and I know I don't.

9                   A. I wish you could do that. I wish  
10 that we can go over it again so we get answer out of  
11 this problem, because obviously you have a different  
12 concept of utilization according to Crown Timber Act as  
13 I have.

14                  You represent company who feels strongly  
15 that they should utilize only timber which is  
16 utilizable for them, but the Crown Timber Act may say  
17 different, they may say that you must utilize it  
18 because it's law.

19                  Q. Well, let's leave the law aside,  
20 there's a whole bunch of lawyers in this room, Mr.  
21 Marek, and let's look at it from another perspective,  
22 shall we?

23                  A. Good.

24                  MADAM CHAIR: Ms. Cronk, can we look at  
25 it from another perspective after our break?

1 MS. CRONK: After our break, yes.

2 MADAM CHAIR: And we will be back  
3 shortly.

4 MS. CRONK: Thank you very much.

5 ----Recess taken at 2:50 p.m.

6 ----On resuming at 3:15 p.m.

7 MADAM CHAIR: Please be seated.

8 MS. CRONK: Thank you, Madam Chair.

9 Q. Mr. Marek, perhaps we could take an  
10 example of the point that we were discussing before the  
11 break. Would you agree with me, in general terms, that  
12 there are physical limitations that apply on the  
13 ability to utilize logging debris?

14 A. Yes, there are.

15 Q. All right. Are you familiar with  
16 Domtar's mill in Red Rock?

17 A. Well, I know where the Red Rock mill  
18 is, I have been in two or three times to inspect the  
19 facilities; is that what you...

20 Q. Thank you. At that mill there's a  
21 wood room operation for chipping; am I right in that?

22 A. Correct.

23 Q. All right. Now, as I understand it,  
24 let's just deal with that process for a moment, when  
25 wood in 8-foot lengths or other lengths is brought in

1 from the bush into that mill, into the wood room  
2 operation, it passes into a drum?

3 A. That's correct, a drum barker.

4 Q. Yes. And the drums take the bark off  
5 by the process of abrasion, the wood rubbing against  
6 each other; is that correct?

7 A. That's correct.

8 Q. And the bark goes out through slats  
9 in the side of the drums?

10 A. Mm-hmm.

11 Q. Sorry, for our reporter, yes? The  
12 answer is yes?

13 A. Yes, yes, yes.

14 Q. Thank you. And all going well, the  
15 wood spills out from the drums onto conveyer belts  
16 which take it either to the chipper for the chipping  
17 operation or to the grinders?

18 A. Also correct.

19 Q. All right. Now, the slats on the  
20 side of the drums are a particular size?

21 A. Oh yeah, they have holes that size.

22 Q. And you're holding your hand up a  
23 couple of inches?

24 A. Whatever it is.

25 Q. They can vary from mill to mill?

1                   A. Yes, that's one of the problem too.

2                   Q. All right. And am I right that if  
3                 the wood is too small instead of just the bark going  
4                 out through the slats, pieces of wood go out through  
5                 the slats as well; is that right?

6                   A. That's correct.

7                   Q. All Right. And if that happens you  
8                 can have debris accumulation in those slats that  
9                 requires, it has to be manually taken out?

10                  A. They can broke -- break, so...

11                  Q. Right. And you can get a big pile of  
12                 this stuff building up and it's got to be removed  
13                 manually; is that right?

14                  A. Yeah, that's present technology we  
15                 have.

16                  Q. And in addition, you can actually  
17                 have the bark, if enough of it accumulates with small  
18                 pieces of wood, it can actually break down the chain  
19                 operation of the drums and the line closes down;  
20                 correct?

21                  A. That is what we call undersized wood  
22                 going through the mill.

23                  Q. And what I'm suggesting, Mr. Marek,  
24                 in going through that process, is that the proportions  
25                 of the wood brought in from the field to the mill have

1       a direct productivity implication and there are  
2       physical limitations as well as to how it can be  
3       utilized; is that correct?

4                     A. Correct, correct.

5                     Q. And you can have major problems in  
6       the mill if those lines stop down because of small wood  
7       accumulation?

8                     A. Using technology as we use now,  
9       Madam.

10                  Q. Right. And there is technology being  
11       tested today to respond to some of those problems. Are  
12       you familiar with that?

13                  A. Well, I heard about it and I have  
14       seen the Swedish mills and Norwegian mills and I have  
15       seen many mills which are dealing with that problem in  
16       the world, yeah.

17                  Q. All right. Including in Ontario, or  
18       do you know?

19                  A. I didn't see anything in Ontario, no,  
20       no.

21                  Q. You don't know. All right. Are you  
22       familiar with the research being done into certain  
23       kinds of delimiters to solve this small wood utilization  
24       problem?

25                  A. De...?

1                   Q. Delimbers, flailed delimiters. Are  
2 you aware of that research?

3                   A. No, no, there are delimiters -- you're  
4 talking about delimiters in the field?

5                   Q. Yes, in the field.

6                   A. Of course I know delimiters, yes.

7                   Q. All right. The only point being that  
8 there are mill site problems associated with trying to  
9 utilize small wood pieces; you would agree?

10                  A. Mm-hmm.

11                  Q. All right. Now, it's my  
12 understanding that by way of example Domtar has been  
13 doing whole-tree chipping since 1979, beginning of the  
14 80s, in there?

15                  A. Oh yes, very much.

16                  Q. And is it also true that there is a  
17 limit, quite apart from the physical constraints or the  
18 volume constraints that apply, there is a limit to how  
19 much wood debris or small wood can be utilized in  
20 chipping operations based on market demand?

21                  A. No, no. Using present technology,  
22 yes, yes.

23                  Q. Yes. And what I'm getting at now is  
24 the market mill requirements as a constraint and what  
25 I'm suggesting to you is that mill requirements for

1       their chipping operations are finite, based on current  
2       technology; is that correct?

3                   A. Yes, yes.

4                   Q. All right. And that's so even for  
5       the companies that have chipping operations?

6                   A. Yes.

7                   Q. All right. And then there's another  
8       aspect of it as well; is there not and that's the whole  
9       quality issue?

10                  A. Yes.

11                  Q. The whole quality of it?

12                  A. Yes, depending on products, depending  
13       on demand, yes.

14                  Q. All right. And what I'm getting at  
15       there though, Mr. Marek, so that we're talking about  
16       the same thing, is that much of the wood left on  
17       harvest sites is often rotting or dead and is not of  
18       sufficient quality to be utilized at the mill end at  
19       all; you'd agree with that?

20                  A. Agree, but there is a definition of  
21       merchantable log which encompasses certain defects and  
22       size of the defect and so on, yes.

23                  Q. All right. Mr. Marek, among the  
24       photos -- or the slides that you showed to the Board  
25       were slides 62 and 54, and I would ask if the Board

1 could take a look at those. I'm going to show you a  
2 copy of them, sir.

3 A. You don't have to go that far, I can  
4 get it from here.

5 MS. SWENARCHUK: Sorry, I want to use  
6 this one. 52 and 64?

7 MS. CRONK: Q. 64 and 52. Sorry, it's  
8 the other way around, 62 and 54. Would you look first  
9 at slide 62, if you would, please. There is little  
10 numbers in the corner. Do you have 62 there, or do you  
11 need some help finding it?

12 A. 64.

13 Q. 62.

14 A. Yeah, I got 62, that's correct.

15 Q. All right. Now, in describing the  
16 picture depicted in that photograph to the Board--

17 A. Right.

18 Q. --you suggested that the debris on  
19 the ground was merchantable and that it was an example  
20 of wood waste?

21 A. That's correct.

22 Q. That was your evidence. Just looking  
23 at that picture, 62, would you agree with me, Mr.  
24 Marek, that there are, throughout that photograph,  
25 examples of rotting and dead wood?

1                   A. In this case, no, because most of  
2 wood I inspected when I took that picture was sound, it  
3 just was not -- the defects were very minor, so they  
4 were bashed up, they were squeezed and, as you see,  
5 they are broken off and so, yes. But, no, there was  
6 really very little rotten or even high defect wood  
7 there, no.

8                   Q. Would you accept, Mr. Marek, that  
9 other professional foresters in observing this  
10 particular situation and others like it might hold a  
11 different opinion as to whether that the wood depicted  
12 in that picture was utilizable or not at mill end?

13                  A. I base my knowledge as a forester who  
14 has got a scaler's licence, who knows the Crown Timber  
15 Act and acts accordingly; in other words, he defines  
16 merchantability and the sound logs as in the Crown  
17 Timber Act and that's what I was using in this case,  
18 Madam.

19                  Q. I'm sorry, sir, that wasn't my  
20 question. My question was--

21                  A. Oh.

22                  Q. --would you accept that other  
23 professional foresters, looking at the conditions  
24 depicted in this photograph and others like it, might  
25 hold a different opinion as to whether the wood

1           depicted in that photograph was utilizable?

2           A. Yes, Madam.

3           Q. Thank you. Now, you suggested in  
4           response to a question from Mrs. Koven with respect  
5           to -- let me back up. There was a discussion that took  
6           place with Mrs. Koven and yourself in respect of this  
7           picture as to whether this type of debris couldn't be  
8           burned, and your answer in part suggested that it would  
9           be extremely difficult to do so. You said, according  
10          to our notes, that you would need many burning tires?

11          A. That's right.

12          Q. All right.

13          A. Or gasoline.

14          Q. Or gasoline. Are you familiar, Mr.  
15          Marek, with the technique employed by Domtar on sites  
16          of this kind by which a piece of equipment called a  
17          terra-torch is used to burn piles that look exactly  
18          like that?

19          A. No, no.

20          Q. You are not?

21          A. I am not.

22          Q. With respect to slide 54, Mr. Marek,  
23          could you look at that, please.

24          A. Yeah, I got slide 54, Madam.

25          Q. Now, once again, Mr. Marek, in

1       describing this photograph to the Board you suggested  
2       that there was merchantable wood left on site and that  
3       it was an example of wood waste or wastage of wood that  
4       should be utilized.

5                     A. That's correct.

6                     Q. Once again, looking at that  
7       photograph, would you acknowledge that there is shown  
8       in that photograph examples of rotted and dead wood  
9       that could not be utilized at mill site?

10                  A. Small percentage, Madam.

11                  Q. All right. There is some?

12                  A. There is -- that is the result, but  
13       small percentage.

14                  Q. And would you acknowledge once again  
15       that there are professional foresters who, in observing  
16       and dealing with a situation of this kind, might hold a  
17       different opinion from yours as to the percentage  
18       component of unutilizable wood?

19                  A. They may.

20                  Q. Yes.

21                  Perhaps it comes to this because, without  
22       belaboring the point, Mr. Marek, would you agree with  
23       me that Industry is under considerable pressure in  
24       today's climate to utilize as much wood as possible  
25       from what it harvests?

1                   A. They are under certain constraints,  
2 yes.

3                   Q. There is this kind of market pressure  
4 brought to bear to improve and to maximize utilization  
5 from harvested wood?

6                   A. Maximum utilization. Not breaking  
7 the law or not the Crown Timber Act, Ma'am.

8                   Q. I understand, but you you would agree  
9 that there is a kind of market pressure to achieve good  
10 utilization of wood?

11                  A. Yes, there is always.

12                  Q. Doesn't it follow then, Mr. Marek,  
13 that it is in the interest of the companies themselves  
14 to utilize as much wood as possible from a site when  
15 they know it can be utilized by their mills?

16                  It is in their self-interest to do so?

17                  A. If depends on many factors and I have  
18 difficulty to say yes or no, Madam, here. I have  
19 difficulties.

20                  Q. Let me put it another way.

21                  A. Please.

22                  Q. Is it not true that it against the  
23 self-interest of the companies to waste utilizable wood  
24 on sites?

25                  A. It should be, yes.

1 Q. And in fact it is?

2 A. Well, I don't know, I'm not company.

3 Q. You don't know?

4 A. I'm not the company. You see, you  
5 are talking about self-interest, Madam. I'm not a  
6 company, I talk from the point of Crown Timber Act.

7 Q. You are aware generally, however, Mr.  
8 Marek, are you not, of the current market environment  
9 for the utilization of wood such as that harvested in  
10 the pictures you have shown the Board in general terms?

11 A. Madam, I'm not expert in marketing.

12 I'm not an expert in milling. I'm here --

13 Q. That's fair. So you would defer  
14 then, I take it, to the opinions of experts in milling  
15 and market demand on issues of this kind?

16 A. I would advise that would be the best  
17 step, yeah.

18 Q. Yes. That's fine, Mr. Marek, thank  
19 you. Connected with this whole issue, is it not also  
20 true quite apart from the mill site problems that we  
21 illustrated--

22 A. You mean the drum barkers?

23 Q. --with the drum barkers, there is a  
24 whole series of problems associated with bark?

25 A. There is.

1 Q. In terms of utilizing wood?

2 A. There is.

3 Q. And, for example, is it not true that  
4 the smaller the tree the higher the percentage of bark  
5 per stem?

6 A. Correct.

7 Q. And the converse, of course, follows  
8 that the older and larger the tree the lower the  
9 percentage of bark per stem?

10 A. As far as bark is concerned, yes.

11 Q. All right. So, for example, on  
12 average, let's take spruce or pine, spruce or pine  
13 have, would you agree, perhaps 10 to 12 per cent bark  
14 on a volumetric basis?

15 A. That may be. As I said, I'm not  
16 expert on measurement of wood and the ratio which goes  
17 into the mill. So that's a strictly company business  
18 and I cannot testify some of this information is right  
19 or wrong.

20 Q. I accept that. The point, I suppose,  
21 really is this, based on your general forestry  
22 knowledge that when one talks about being able to  
23 utilize small wood pieces left over from harvesting  
24 operations the percentage of bark present dictated by  
25 the number of stems is something that causes problems

1 and has to be dealt with?

2 A. Well, under the present technology we  
3 are applying, of course it does cause problems.

4 Q. Yes. Still dealing with this issue  
5 of small wood pieces or shortwood removed from the  
6 bush, would you agree with me that there are  
7 transportation problems in the bush associated with  
8 utilizing that kind of wood as well?

9 A. Yes.

10 Q. Is it not true, for example, that  
11 unlike the normal removal of the wood from the bush it  
12 is extremely difficult to load and transport safely  
13 small wood pieces?

14 A. Well, that's our transportation. I  
15 have to elaborate a little bit on that before I say yes  
16 or no.

17 It depends on the efficiency of the  
18 tractors, it depends on many aspects. There are  
19 certain rules and regulations. As you know, ministry  
20 of Transportation regulates that transport of the  
21 products from the area to the highway system down to  
22 the mills, and surely if the operator is aware of these  
23 rules he can transport small wood just as well as the  
24 big wood; in other words, size and cut.

25 Q. Can we go this far together, Mr.

1           Marek. It is very difficult to do so safely?

2                         I am not saying it cannot be done, but it  
3                         is a whole different set of problems to transport wood  
4                         like that from the bush to the mill site?

5                         A. I suppose it takes more effort or  
6                         control.

7                         Q. And physically it is difficult to do  
8                         it safely because the smaller the wood the more  
9                         frequent the fall-off from the haul trucks?

10                        A. You're talking about safety on the  
11                         highways?

12                        Q. I am.

13                        A. Well, to discuss for me this problem  
14                         is difficult because I'm not enforcing highway  
15                         regulations and product, but common sense tells me - if  
16                         I may express my opinion, Madam Chair - indeed when you  
17                         have smaller wood and transport that wood from A to B,  
18                         you have to be more careful, you have to check your  
19                         road and you just have to do a very careful job. Is  
20                         that inconvenience...

21                        Q. It has productivity implications as  
22                         well; doesn't it?

23                        A. We discussed that.

24                        Q. Yes. You agree that this particular  
25                         aspect has productivity implications as well?

1                   A. We discussed the more sticks you have  
2                   in the road, the more bark you have. We discussed it,  
3                   Madam.

4                   Q. That may be, but are you agreeing  
5                   with me that this particular aspect of it has  
6                   productivity implications, the number of loads that can  
7                   be brought from the bush?

8                   A. Yes.

9                   Q. Thank you. Is it not also true, Mr.  
10                  Marek, that there is a direct cost implication to this  
11                  whole issue of utilization of shortwood or small wood,  
12                  and what I mean by that is that the cost to chip  
13                  smaller wood pieces are a great deal higher than the  
14                  chipping of larger wood pieces, or do you know?

15                  A. Well, here I -- before I ask you to  
16                  quantify certain things, it seems to me that the  
17                  research study done by Industry, of course, shows very  
18                  clearly which -- you know, if it works this way or the  
19                  benefits in comparing with the whole condition of the  
20                  chip. No, I'm not expert in this. That's a mill --  
21                  that's a productive...

22                  Q. You can't help me on that, you don't  
23                  know?

24                  A. I will be on very unsure ground to  
25                  document these things. But as I see this, I think ..

1       that, who doesn't like big wood. Big wood is always  
2       better than small wood.

3                   Q. We will leave the cost issues then to  
4       those able to deal with them.

5                   A. Very much so. That's their business.

6                   Q. Can we agree on this, Mr. Marek, that  
7       the whole issue of the utilization of logging debris  
8       and the characterization of leaving logging debris as  
9       wood waste is a complicated issue and there are many  
10      factors that have to be taken into account in  
11      determining if wood of that kind can in fact be used  
12      given current technology and market conditions?

13                  A. Current technology, correct.

14                  Q. All right. It is, perhaps you will  
15      agree, an oversimplification to suggest by looking at a  
16      photograph that there is wood that has been left on the  
17      site, it is unacceptable, that's wood waste? It is  
18      much more complicated than that; isn't it?

19                  A. I still say no.

20                  Q. You would agree it is much more  
21      complicated than that?

22                  A. No, it isn't.

23                  Q. I see. It is just a question of  
24      picking it up and taking it away?

25                  A. According to law. Madam, we have a

1 law which tells you very straightforward what waste  
2 means and I --

3 MADAM CHAIR: Mr. Marek, is it your  
4 evidence that the legal requirements of the Crown  
5 Timber Act are being ignored?

6 THE WITNESS: Yes.

7 MADAM CHAIR: Thank you.

8 MS. CRONK: Q. Are you aware of  
9 penalties imposed on Domtar in your area of the world,  
10 the Lake Nipigon FMA for wood waste under the Crown  
11 Timber Act?

12 A. Not recently because the scaling is  
13 not being done.

14 Q. At all?

15 A. The scaling is done by weight at the  
16 mill.

17 Q. At all? Mr. Marek, are you aware of  
18 any penalties that have been imposed on Domtar for waste  
19 in the field?

20 A. No.

21 Q. Thank you. Mr. Marek --

22 MR. MARTEL: Can I ask a question then.  
23 Given everything that Ms. Cronk has said, given the  
24 various problems confronting the operator, is it your  
25 opinion then that we should leave rather than cut some

1 of that material or should we leave it?

2 THE WITNESS: You mean standing?

3 MR. MARTEL: Standing for other purposes  
4 such as maybe habitat for certain species, rather than  
5 cut it and leave it on the ground?

6 THE WITNESS: I do agree.

7 MS. CRONK: Q. As a follow-up to that,  
8 if I might, Mr. Martel. I'm sorry I don't know if you  
9 were finished.

10 MR. MARTEL: Yes.

11 MS. CRONK: Q. As a follow-up to that,  
12 Mr. Marek, is it not the case that in any harvesting  
13 operation, regardless of method, there is going to be  
14 debris, you are going to have tops and pieces every  
15 time you cut?

16 A. Madam, any logging is dealing with  
17 debris. The difference is what kind of debris and if  
18 it's under the act of timber management; in other  
19 words, there is a rule set by law to measure certain  
20 things, it's merchantable or non-merchantable. If it  
21 is merchantable, according to our law, that should be  
22 removed in the area and utilized.

23 Q. If merchantable wood is not removed  
24 and not utilized, is it not true that legislation  
25 provides a procedure for the imposition of penalties on

1           those that breach its terms?

2                         A. Correct.

3                         Q. Thank you. Now, one of the other  
4           issues generally that has arisen in your evidence, Mr.  
5           Marek -- sorry, sir.

6                         One of the other issues, Mr. Marek, that  
7           has arisen generally in your evidence has to do with  
8           the setting of silvicultural prescriptions and how  
9           foresters should be going about that, and you will  
10          recall that you have been asked a number of questions  
11          and offered a number of opinions regarding the setting  
12          and implementing of silvicultural prescriptions?

13                         A. Correct.

14                         Q. Apart from the issue of who should do  
15           that, who should formulate and implement silvicultural  
16           prescriptions, would you agree, Mr. Marek, that there  
17           isn't just one way to go about it?

18                         A. What do you mean one way going about  
19           it?

20                         Q. There isn't just one way to approach  
21           the setting and formulating of silvicultural  
22           prescriptions, there are a number of ways one could do  
23           it?

24                         A. I understand, again from my  
25           experience, that the prescriptions are done by

1 certified professional foresters after examining the  
2 ground.

3 Is that -- perhaps I am missing your  
4 point, Madam.

5 Q. I suppose what I am suggesting, Mr.  
6 Marek, is that in term of the methodology, in terms of  
7 how you approach the issue of setting silvicultural  
8 prescriptions, there a variety of ways one might do it,  
9 there is not just one way?

10 A. Suggest to me, just to help me out,  
11 Madam.

12 Q. For example, would you agree that  
13 there is no one prescription that would be appropriate  
14 for each species?

15 A. For different species and different  
16 sites and different conditions and harvesting, there is  
17 many different options. You want to call it options?

18 Q. Yes. That's fine.

19 A. Yes, there is.

20 Q. All right. There is no one  
21 prescription, for example, that would be appropriate  
22 for an entire class of sites, it is more site specific?

23 A. It is site specific, that's correct.

24 Q. It is more site specific?

25 A. That's right.

1                   Q. Could I ask you to go to Tab 1 of the  
2 black binder, Mr. Marek, which, you will remember,  
3 contains a number of interrogatories.

4                   I would like you to flip through, if you  
5 could, until you find the interrogatories relating to  
6 the Ontario Federation of Anglers & Hunters. It's the  
7 second package.

8                   A. What page?

9                   Q. Unfortunately, they are not paged.  
10                  The first set relates to the OFIA/OLMA.

11                 A. I have that.

12                 Q. The second set relates to the Anglers  
13 and Hunters.

14                 A. Okay. I got it here.

15                 Q. Could you look at No. 3, please.

16                 A. Yes, the first one, paragraph 1?  
17                 "This assessment..." and so on?

18                 Q. You were asked from an operational  
19 perspective -- I am looking at subparagraph 2.

20                 MR. FREIDIN: Which question, I'm sorry?

21                 MS. CRONK: 3(2).

22                 Q. You were asked from an operational  
23 perspective how it was proposed to deal with the broad  
24 array of circumstances forest sites and conditions  
25 across the forest regions of northern Ontario as boreal

1 forest in the timber management planning process.

2 Do you see the question?

3 A. That's correct.

4 Q. And the answer provided was the  
5 following:

6 "The timber management planning process  
7 must consider a variety of site  
8 conditions, a variety of users and a  
9 variety of options while, at the same  
10 time, being aware of a variety of risks."

11 A. Correct.

12 Q. That's your view?

13 A. Right.

14 Q. And in general terms, that reflects  
15 the various things that must be taken into account in  
16 the process?

17 A. By that process, yeah.

18 Q. All right. Could you move then to  
19 No. 19 for the Anglers and Hunters.

20 A. 19?

21 Q. Yes.

22 A. Paragraph...

23 Q. Paragraph 38. This is a quote from  
24 your witness statement in which the assertion is made  
25 that planting by itself is a useless measure of

1 management quality?

2 A. Correct.

3 Q. You were asked the following  
4 question:

5 "How should such measures be established  
6 in the timber management planning  
7 process?"

8 A. Correct.

9 Q. And the answer was:

10 "Through biologically sound harvesting  
11 and silvicultural prescriptions specific  
12 to the site."

13 A. Correct.

14 Q. That's your view?

15 A. Yeah.

16 Q. Do I take it then that in  
17 establishing harvesting and silvicultural prescriptions  
18 you are of the view that they should be specific to the  
19 sites at issue?

20 A. Mm-hmm, yes.

21 Q. Could I ask you to turn to 21,  
22 please, Anglers and Hunters. It's two pages over.

23 A. Correct.

24 Q. The section from your witness  
25 statement being quoted was dealing with the suggestion

1       of damage being done by various types of logging  
2       equipment and you were asked:

3                     "How is it proposed that the use of  
4                     equipment be controlled in the timber  
5                     management planning process."

6                     Do you see the question?

7                     A. Correct. I have it.

8                     Q. You were also asked:

9                     "Please provide specific examples of the  
10                    type of control mechanisms envisages that  
11                    would be included in the timber  
12                    management plan."

13                    And your first answer was:

14                    "Site specific prescriptions based on  
15                    detailed knowledge of machinery and  
16                    silvicultural requirements."

17                    A. Right.

18                    Q. Just dealing with that one again. I  
19                    take it that you are urging the setting of  
20                    prescriptions with specific attention made to the  
21                    details of the particular site for which they are set?

22                    A. Correct.

23                    Q. And, No. 2, with respect to examples  
24                    of the type of control mechanisms that you envisage  
25                    should be included in a timber management plan, you are

1 saying that, again, improved technology should be  
2 included, but applicable to specific site conditions?

3 A. Correct.

4 Q. And then could I ask you to go back  
5 earlier in this set of interrogatories to the OFIA  
6 interrogatorys. They are at the front, Mr. Marek, and  
7 it is No. 22 that I would ask you to look at, please.

8 I'm sorry, it's Tab 30. It was an  
9 additonal one added.

10 A. Tab 30. Yes, I got it here, Tab 30.

11 Q. You were asked a question about  
12 techniques which you would suggest were appropriate and  
13 on what specific facts you relied in support of  
14 suggesting particular techniques and your answer --  
15 there were two answers provided. The first answer in  
16 the first paragraph read as follows:

17 "Appropriate techniques depend on site  
18 and stand conditions and may vary  
19 slightly. Example, small area clearcut  
20 management in shallow soils.'.

21 And then the next paragraph, the answer  
22 reads:

23 "Common sense, experience and operational  
24 intuition are all important when  
25 assessing appropriate prescriptions."

1                   Is that your opinion?

2                   A. Yes.

3                   Q. All right. Do I take it then that  
4                   from your perspective as a forester experienced in the  
5                   Lake Nipigon area that in setting prescriptions you  
6                   believe the common sense of the involved forester, the  
7                   experience of the involved forester and the operational  
8                   intuition of the involved forester all are important  
9                   and come into play in setting the appropriate  
10                  silvicultural prescriptions?

11                  A. That's correct.

12                  Q. You have also said, as I understand  
13                  it --

14                  MADAM CHAIR: Excuse me, Ms. Cronk, do  
15                  you want to make that an exhibit?

16                  MS. CRONK: Thank you, Madam Chair, yes.

17                  MADAM CHAIR: That will be Exhibit 1558.

18                  MS. CRONK: Thank you.

19                  MADAM CHAIR: Could you describe it,  
20                  please?

21                  MS. CRONK: It is OFIA interrogatory No.  
22                  22 and answer with respect to Forests for Tomorrow  
23                  Panel 3 evidence.

24                  MADAM CHAIR: Thank you.

25                  ---EXHIBIT NO. 1558: OFIA interrogatory No. 22 and

1 answer thereto. (Panel 3)

2

3 MS. CRONK: Q. Mr. Marek, you have also  
4 said several times in the course of your direct  
5 evidence to the Board that you felt it important that  
6 the Board and others recall that we have - and the  
7 words as I wrote them down, I didn't have the  
8 transcript then, I do now - at the time I wrote it was,  
9 we have thousands of different conditions and dynamics  
10 not one forest.

11

You recall saying that?

12

A. That's correct.

13

14

Q. You have also said, as I understood it in your evidence, that there are a great number of elements that have to be taken into account in setting silvicultural prescriptions and things like the professional judgment of the involved forester come into play?

19

A. That's correct.

20

21

22

Q. All of that being the case, Mr. Marek, and given the answers that you have provided to the interrogatories that I have shown to you, would you agree with me that it would be inappropriate to identify one particular prescription to apply to an entire working group in the area of the undertaking?

1                   A. Is that something to do with the  
2 thousands of different forests?

3                   Q. No. I understood your evidence to be  
4 that forest conditions are greatly varied?

5                   A. Right.

6                   Q. And no one forest is the same?

7                   A. That's correct.

8                   Q. And you have told us in your  
9 interrogatory answers of the need to be site specific?

10                  A. Right.

11                  Q. And the need to rely on various  
12 skills of foresters, including judgment, intuition,  
13 experience and common sense?

14                  A. That's right.

15                  Q. What I am saying to you, that all  
16 being the case, would you agree with me that it would  
17 be inappropriate to set one silvicultural prescription  
18 for an entire working group across the whole of the  
19 area of the undertaking?

20                  A. Correct.

21                  Q. There is then no one appropriate  
22 silvicultural prescription for each type of site, it is  
23 site specific because they are all different?

24                  A. Not only that, because the influence  
25 or the results of logging may differ from site to site.

1                   MADAM CHAIR: Excuse me, Mr. Marek. Are  
2 you agreeing -- would you agree then to the proposition  
3 that we couldn't have one silvicultural prescription  
4 that would say for all black spruce in the Lake Nipigon  
5 area, the best silvicultural prescription would be  
6 strip clearcutting and natural regeneration?

7                   THE WITNESS: No, I don't think it's  
8 possible, Madam. No, I don't think so.

9                   MS. CRONK: Q. Mr. Marek, that takes me  
10 right to the point then. Put in front of you, please,  
11 Exhibit 1416A, which are the terms and conditions  
12 proposed by Forests for Tomorrow.

13                  You had it earlier today. I'm sorry, I  
14 didn't see what you did with it.

15                  A. Yes, I have it here. Have patience  
16 with me, I don't know where I put it here. It's some  
17 place. I had it this morning.

18                  MS. SWENARCHUK: (handed)

19                  THE WITNESS: Okay, Madam.

20                  MS. CRONK: Q. Mr. Marek, you will see  
21 at page 2 of Exhibit 1416A certain silvicultural  
22 standards proposed, including under subparagraph (a)  
23 those proposed for the black spruce working group?

24                  A. That's right.

25                  Q. All right. Now, as I understand the

1 condition that has been proposed, it is dealing with  
2 black spruce, that harvesting shall be by strip  
3 cutting, patch cutting or block cutting in regular or  
4 irregular shapes.

5 Now, stopping there for a moment. There  
6 is no limitation in this condition that it shouldn't  
7 apply in specific situations throughout the area of the  
8 undertaking, it appears to apply to the entire black  
9 spruce working group with the exception of fragile,  
10 sensitive sites where it is a little bit different.

11 So what I am really suggesting to you,  
12 Mr. Marek, is that setting one silvicultural  
13 prescription for an entire work group, given the  
14 variability of conditions in the forest that you have  
15 indicated to the Board is not appropriate  
16 silviculturally. Would you agree?

17 A. There are variations in these  
18 prescriptions, as you noted. I don't know if we should  
19 go through it, but obviously there is not one  
20 prescription which would say width of the strips and  
21 specific site oriented.

22 Q. Let's take a look at the next  
23 paragraph then if that's your understanding. The next  
24 paragraph deals with black spruce sites classified as  
25 unstable, fragile or sensitive and exposed bedrock?

1                   A. That's right.

2                   Q. A particular kind of black spruce  
3 -site wherever it should occur?

4                   A. Mm-hmm.

5                   Q. It is suggested in that paragraph  
6        that those in those circumstances those types of sites  
7        should be harvested in a particular manner; that is, by  
8        strip cutting, patch cutting or block cutting, all, you  
9        will agree, modified harvesting operations? Those are  
10      all modified harvesting operations?

11                  A. Small area clearcut management, yes.

12                  Q. Further, it suggests that the width  
13       of openings should not exceed one and a half times the  
14       tree height. Now, the width of opening, you will  
15       agree, that's the leave area, is it not, the opening,  
16       the strip?

17                  A. The opening is where the timber is  
18       being removed.

19                  Q. So, for example, if you had a 40-foot  
20       tree in the uncut standing leave area--

21                  A. Right.

22                  Q. --it would mean that you will have a  
23       60-metre strip?

24                  A. That's correct.

25                  Q. And it is very definite that the

1       width should not exceed one and a half times the tree  
2       height?

3                     A. That's correct.

4                     Q. You will agree with me that that is  
5        quite a specific requirement that would apply if these  
6        conditions were accepted to all sites of this kind?

7                     A. Perhaps we are talking about two  
8        different concepts. When this was -- talk of  
9        silvicultural prescriptions were suggested here, I  
10      should have said that this is not a cookbook which  
11      applies everywhere.

12                  Q. Well, let's just deal -- my  
13      suggesting to you is this is just exactly that?

14                  A. No.

15                  Q. Take a look at what's being proposed  
16      just for the particular kind of black spruce sites that  
17      are being characterized as unstable, fragile or  
18      sensitive.

19                  A. That's right.

20                  Q. There is a particular width of  
21      opening prescribed and a particular form of harvesting,  
22      all of which are the modified harvesting -- are in the  
23      modified harvesting category?

24                  A. Correct.

25                  Q. There is no flexibility permitted for

1 are other types of harvest; am I right?

2 A. Not wider the strips, that's correct,  
3 yeah.

4 Q. First of all, leaving aside the strip  
5 width for the moment, there is no other type of  
6 harvesting permitted under these prescriptions?

7 A. On the fragile site, no, you  
8 cannot --

9 Q. There is no other width of strips  
10 permitted except 1.5?

11 A. On the fragile sites.

12 Q. Those are very restrictive  
13 prescriptions and it is across an entire group of sites  
14 in the area of the undertaking; would you agree?

15 A. What do you mean restrictive.

16 Q. They are specific as to what should  
17 apply on all sites of that kind in the area of the  
18 undertaking; am I right?

19 A. In that term, yes, it's restrictive.

20 Q. What I am saying to you is that does  
21 not permit the kind of flexibility in the field that  
22 would suggest that the common sense, experience and  
23 operational intuition of foresters are to be taken into  
24 account in assessing appropriate prescriptions?

25 A. I disagree. May I say why?

1                   Q. Please do.

2                   A. Because here is no mention at all the  
3 direction of the strips. Do I ever mention direction  
4 of the strip? Accommodate the strip to certain  
5 terrains, it's not mentioned here.

6                   So these are already variations which  
7 Madam Chair suggested. She suggested is a one  
8 prescription it does because here in the context of  
9 this are many variations, Madam, which I didn't mention  
10 because I didn't want to write specific cookbook for  
11 certain site conditions.

12                  Q. All right. Can we agree with this,  
13 though, as to harvesting method and as to width of  
14 strip, this is a cookbook fixed prescription that is to  
15 apply to all sites of that kind?

16                  A. Disagree.

17                  Q. Where in that prescription does it  
18 permit flexibility in the field as to width strip, for  
19 example?

20                  A. Where it's stated? Oh, width strip,  
21 okay.

22                  Q. It is fixed?

23                  A. It's fixed.

24                  Q. Harvesting method within the modified  
25 harvesting category, nothing outside of that?

1                   A. No, that can be changed. The  
2 harvesting method can be according to the site  
3 condition, according to things which are not mentioned  
4 in this cookbook.

5                   Q. I'm sorry, maybe we have all, certain  
6 myself have misunderstood this. I thought this  
7 prescription provided that harvesting was to be by  
8 strip cutting, patch cutting or block cutting, regular  
9 or irregular shapes period?

10                  A. Madam Chair, this is a hundred  
11 different forest.

12                  Q. It is all modified harvesting; is it  
13 not?

14                  A. Madam, this presents a thousand  
15 different conditions.

16                  Q. It is all modified harvesting?

17                  A. If we talk about small area clearcut  
18 management. Please look at the dictionary which means  
19 implementation of small area clearcutting. That can be  
20 done in many forms, many variation and this is what I  
21 didn't want to impose on the manager because that will  
22 be restrictive.

23                  Q. What you done, though, would you  
24 agree, is you have fixed modified harvesting as the  
25 appropriate harvesting methods, first, for all black

1 spruce sites and in particular for fragile or sensitive  
2 sites with expose bedrock?

3 A. First of all, not for all sites.

4 That's No. 1.

5 Q. Mature black spruce stands?

6 A. Well, you have so many different  
7 mature --

8 Q. For all mature black spruce stands;  
9 isn't that so?

10 A. Over-mature black spruce on different  
11 conditions. We have mature stands with different  
12 conditions, Madam.

13 Q. Mr. Marek, forgive me. All right.  
14 Let me just make sure we are talking about the same  
15 thing.

16 What I am saying to you, sir, is that in  
17 this prescription for the black spruce working group,  
18 for mature black spruce stand, let's take that first,  
19 as defined in this conditions there is one harvesting  
20 prescription by category and it is modified harvesting  
21 with variations within it, but it is modified  
22 harvesting and no other form of harvesting is  
23 permitted. I am right in that, am I not?

24 A. Small area clearcut management, yes.

25 Q. That's it?

1                   A. Yes.

2                   Q. With respect to strip width for  
3                  mature black spruce stands they are to be not in excess  
4                  of twice the height in the--

5                   A. Yes.

6                   Q. --leave areas?

7                   A. Yes.

8                   Q. Fixed? That's it?

9                   A. Yes.

10                  Q. With respect to the sensitive,  
11                  unstable or fragile sites, the leave width is not to  
12                  exceed one a half times the tree width and that's  
13                  fixed?

14                  A. Yes, that's right.

15                  Q. Could I ask you to go to the Jeglum  
16                  article, the 1989 article that we look at earlier  
17                  today, Mr. Marek. It's in your book at Tab 26.

18                  A. Tab 26.

19                  Q. Page 8.

20                  A. Just a second. 26.

21                  Q. Page 8.

22                  A. Page 8, yes. Correct. I have got  
23                  page 8.

24                  Q. I am going to direct your attention,  
25                  if I could, please, to the discussion on page 8 under

1 the words On Site. Do you see that?

2 A. Yes. "On shallow soil sites..."

3 Q. Yes. Dr. Jeglam indicates:

4 "On shallow soil sites, one is dealing  
5 with a highly variable mixture of site  
6 conditions, all of which are united  
7 by the extremely shallow mineral soil  
8 component over bedrock."

9 He refers to his prior work and work by  
10 Simms and Towel. Then he goes on to say:

11 "These may include dry exposed bedrock,  
12 bedrock covered with only an organic  
13 mat and feather moss, variable  
14 depths of shallow ground morain over  
15 bedrock and wet undrained bedrock boles  
16 and drainage ways with peaty deposits.

17 Sometimes these areas can be rather flat  
18 and low with a predominance of lower  
19 slope and wet peaty conditions. In other  
20 places, the areas may be very rugged and  
21 broken with rocky outcrops and crest and  
22 upper slope conditions predominating,  
23 sometimes there may be ribbed pattern  
24 with low ridged of rock alternating with  
25 wet peaty swales, older outwashes and

1                   other fragile shallow soil site that is  
2                   particularly difficult to regenerate by  
3                   conventional planting techniques."

4                   Just dealing with all of that, Mr. Marek,  
5                   would you agree with me that shallow soil sites exhibit  
6                   the kind of high variability of site conditions  
7                   suggested by Dr. Jeglum?

8                   A. That's been suggested by the term of  
9                   thousand different stands.

10                  Q. So you do agree?

11                  A. Yes.

12                  Q. And no one shallow site is the same  
13                  as another?

14                  A. No.

15                  Q. Could I ask you then, if you would,  
16                  please, to go to page 9.

17                  A. Of the same report?

18                  Q. Yes, next page. Under Planning and  
19                  Implementation?

20                  A. Yes.

21                  Q. Second paragraph.

22                  A. That's correct.

23                  Q. "In laying out the strips..." Mr.  
24                  Jeglum is talking about strip cutting.

25                  "In laying out the strips there must be

7 A. That's correct.

8                           Q. Stopping there. Dr. Jeglum is  
9 clearly indicating he does not think that fixed widths  
10 and depth of strips is appropriate. Isn't that what he  
11 is saying?

12 A. That's what he said just now.

13 Q. In the conditions proposed by Forests  
14 for Tomorrow, quite the opposite approach has been  
15 stipulated? Width has been stipulated?

A. Width, that's correct, as a maximum.

17 Q. Could you also direct your attention  
18 to the last paragraph on this page which reads:

19 "Standard operational strip width in the  
20 shallow soil upland sites in the Domtar  
21 operation is 60 metres. However, if the  
22 site is very rocky and rugged and site  
23 preparation will expose a high proportion  
24 of bedrock, widths should be reduced to,  
25 say, 40 metres to increase the amount of

1                   shelter provided by the adjacent leave  
2                   strips. If the site is predominantly wet  
3                   with lots of sphagnum, the width could be  
4                   increased to 80 to 100 metres."

5                   A. That's correct.

6                   Q. Stopping there. Dr. Jeglum is  
7                   suggesting, is he not again, that there should be  
8                   flexibility in setting the appropriate strip width?

9                   A. We have the flexibility up to.

10                  Q. I see. So as long as the fixed--

11                  A. Maximum.

12                  Q. --maximum width set out in these  
13                  prescription are adhere to, you perceive that there is  
14                  variability in the field?

15                  A. Yes.

16                  Q. You would agree with me, however,  
17                  that Dr. Jeglum is suggesting that there could be strip  
18                  widths from 80 to 140 metres?

19                  A. That's what he states.

20                  Q. In no way does he tie in either  
21                  section of the article to which I directed your  
22                  attention, in no way does he tie his view of the  
23                  flexibility needed for strip widths to the suggestion  
24                  of height of trees--

25                  A. No.

1 Q. --in the leave strips?

2 A. That's correct.

3 Q. Could I ask you to go as well to Tab  
4 24 which, you will remember perhaps, is the Morrow  
5 article that we looked at before. I would -- sorry,  
6 Tab 24, Mr. Marek.

7 A. Tab 24.

8 Q. Page 67.

9 A. That's correct. I have it.

10 Q. Bottom right-hand corner.

11 A. We have gone it before.

12 "The problem increased  
13 proportionately..."

14 Q. Mr. Morrow -- you will remember we  
15 looked at this in a different context and Mr. Morrow is  
16 talking about the operational constraints applicable to  
17 strip cutting and the difficulty of controlling and  
18 predicting them, and he suggests quite specifically in  
19 the last sentence, last two sentences:

20 "The key is flexibility. Forest managers  
21 must be prepared to alter modified cut  
22 layouts during logging operations on the  
23 site. Operation foreman must also be  
24 prepared to accommodate silvicultural  
25 requirements and prescriptions for that

1                   particular stand."

2                   A. That's correct.

3                   Q. You will agree with me that Mr.

4                   Morrow is urging flexibility in the field even with  
5                   respect to strip cutting?

6                   A. That's correct.

7                   Q. What I am suggesting to you, Mr.

8                   Marek, is simply this: With mature spruce stands, for  
9                   example, let's take the mature stands, there will be  
10                  situations when it is more appropriate to clearcut than  
11                  to modified harvest. Would you acknowledge that?

12                  A. Would you repeat it again?

13                  Q. Yes. For mature black spruce stands  
14                  there will be situations where it is more appropriate  
15                  to clearcut than to modified harvest depending on site  
16                  conditions. Would you agree?

17                  A. In mature stands of certain stocking,  
18                  you don't qualify that, in mature stands of certain  
19                  pathological rotations; in other words, which is  
20                  infested by pathogens. There must be other  
21                  flexibility, Madam.

22                  Q. That's what I am suggesting to you.

23                  The flexibility should be preserved to permit other  
24                  than modified harvesting in mature black spruce stands?

25                  A. That has been expressed in these

1 guidelines.

2 Q. In your view that kind of flexibility  
3 is preserved?

4 A. I think in those guidelines the  
5 flexibility is there.

6 Q. All right. Let's --

7 A. Because we talked about certain pages  
8 there about the condition which should qualify for  
9 clearcutting.

10 Q. I understand. Do you agree with me  
11 then that depending on site conditions there will be  
12 circumstances where, as you have described it in your  
13 evidence, large area clearcutting a mature black spruce  
14 stand can be warranted?

15 A. Under certain conditions which is  
16 assigned or described here in the guidelines.

17 Q. All right. To the extent that it can  
18 be warranted in certain situations, no prescription  
19 which would preclude that option would be appropriate.  
20 You would agree?

21 A. Yes.

22 Q. All right. And, similarly, would you  
23 agree with me that there may well be situations where  
24 strip widths should not be fixed for mature black  
25 spruce stands to a maximum of two times the height of

1       the trees left in the leave strip, that you have got to  
2       maintain flexibility for the width of those strips?

3                     A. When we talk about theory and  
4       practice, I am quite sure when I was preparing this  
5       guideline that certain flexibility will by allowed on  
6       the discretion of the timber management forester or men  
7       who's responsible for timber management planning.

8                     Q. Are you saying then, Mr. Marek, that  
9       there will be situations where the width of strips will  
10      exceed appropriately two times the height of trees left  
11      in the leave strip? There could be that situation  
12      where it is necessary to do that?

13                  A. Madam Chair, there could be all kind  
14      of situations.

15                  Q. Exactly. Isn't it important then,  
16      Mr. Marek, in setting the silvicultural prescriptions  
17      for black spruce strips that foresters not be locked  
18      into one particular maximum width?

19                  A. They should be locked in some kind of  
20      restriction, but what I am saying that in theory or  
21      when you practice it here it may be different when you  
22      are in the field. That's why I'm suggesting in the  
23      restriction of the timber management planning process.  
24      Especially in the case of accuracy of and the  
25      flexibility of and the things which are strictly

1 depending on condition of these stands may - and this  
2 is not written in stone, Madam.

3 Q. And it shouldn't be?

4 A. No, it shouldn't be.

5 Q. We shouldn't adopt any prescription  
6 which appear on their face to lock foresters in as to a  
7 fixed type of treatment; for example, modified  
8 harvesting of one kind or another in every situation  
9 for mature black spruce stands. That's not  
10 appropriate?

11 A. The forest manager, it's up to his  
12 discretion with the structure of timber management  
13 planning that he eventually is assigned or designs  
14 strategies which will be beneficial to the forest and  
15 rejuvination.

16 Q. It may well not be, for example, that  
17 a width of strips tied to a maximum of two times the  
18 height of trees left in the leave strips?

19 A. Madam, if you have a terrain which  
20 you cannot reach and harvest trees, there are two  
21 options. You leave the trees standing or you harvest  
22 what you can in consideration that the biological  
23 process will be rejuvination and renewal assured.

24 Q. You have got to have the flexibility  
25 to choose what is right in the circumstances?

1                   A. That's what forester's profession is  
2                   and this is...

3                   Q. You will agree with that?

4                   A. I agree with that.

5                   Q. So it's the forester who should  
6                   decide not for some blanket prescription, it is the  
7                   forester who should decide, for example with modified  
8                   harvesting, whether it should be a two or three coupe  
9                   system, that shouldn't be set by a fixed prescription  
10                  you would agree?

11                  A. Yes.

12                  Q. It is the forester who should decide  
13                  what the maximum or appropriate width of the opening  
14                  should be, that shouldn't be fixed in advance by some  
15                  blank prescription?

16                  A. Yeah, with due consideration to the  
17                  other aspects, benefits and whatever.

18                  Q. I agree. And that should apply  
19                  whether it is a mature black spruce site or a shallow,  
20                  fragile expose bedrock site you would agree?

21                  A. Madam, this is a guideline.

22                  Q. Sorry, I don't have the answer to the  
23                  last one. Do you agree?

24                  A. We agreed already, Madam, that the  
25                  final say is in the hand of professional man who with

1 agreement of the timber management process - in  
2 agreement with the timber management process plan  
3 implement these strategies.

4 Q. All I'm really saying to you, Mr.  
5 Marek, is that your view as to what's appropriate in  
6 the field and the kind of flexibility that's required  
7 is not reflected in these terms and conditions.

8 A. Denied, I think it's a guideline  
9 which exactly stipulate and poor forester have to think  
10 about these kind of prescriptions.

11 Q. All right. But you are not  
12 suggesting that this Board impose fixed prescriptions  
13 of this kind on foresters in the field?

14 A. Madam, this is not written in stone.

15 Q. No, but if the Board were to adopt  
16 and approve them it could well be that that would  
17 happen. And I'm suggesting to you that that is not  
18 what you would want, you would not want fixed  
19 prescriptions to apply in that fashion to foresters in  
20 the field; that's not what you want to see happen?

21 A. I do not want, but I want forest  
22 management which will stipulate these kind of  
23 restrictions if necessary.

24 Q. Restriction by way of guidelines or  
25 parameters?

1                   A. That's right.

2                   Q. Thank you.

3                   MS. CRONK: Madam Chair, I apologize, I  
4 see that I have gone over time.

5                   MADAM CHAIR: All right. Let's call it a  
6 day, Mr. Marek.

7                   THE WITNESS: Okay, thank you.

8                   MADAM CHAIR: We will see you at nine  
9 o'clock tomorrow morning.

10                  MS. CRONK: Thank you.

11                  MADAM CHAIR: Although if you wanted to  
12 start at ten o'clock...

13                  THE WITNESS: No, no. As far as I am  
14 concerned you might as well start at seven o'clock.

15                  MADAM CHAIR: Thank you. Nine o'clock  
16 tomorrow morning.

17                  THE WITNESS: Thank you.

18                  ---Whereupon upon the hearing adjourned at 4:10 p.m.,  
19 to be reconvened on Thursday, November 15th, 1990,  
commencing at 9:00 a.m.

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